Gleanings in Bee Culture

85 years of continuous publication by the same organization.

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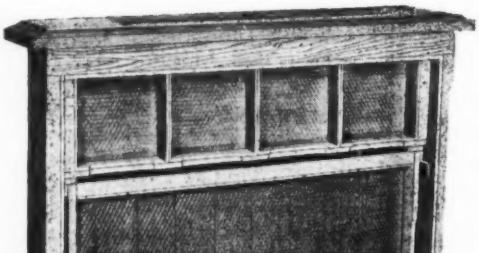

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Bee Lines to The Editor

Concerning July Gleanings Cover

"The August cover of Gleanings is beautiful and we liked the July cover also. Therefore I was disturbed to read A.Q.'s criticisms in the August issue.

"Is it true that amateurs alone wear bee nets or is that just A.Q.'s opinion? I believe it is foolhardy to risk being stung in sensitive places about the face or throat.

"A.Q. better take a long look at the July issue. Mr. McCaskill must be wearing invisible gloves or my bifocals need changing.

"Some folks jump to hasty conclusions. If those specks out in front of the hives are bees, they could be dead ones carried out by the bees themselves. Mr. McCaskill's feet are hidden from view.

"To me the feeders were an added effect to make the picture more appealing. They appear to be empty and probably were at the time this nice clear picture was taken." — Amateur Beekeeper's wife, E.D.F.

Why Take a Stinging

"In the August issue of Gleanings, A.Q. of California, says 'since when did beekeepers (other than amateurs) wear gloves and bee veils?'

"I still class myself as an amateur after working with bees for 57 years and consider it prudent to wear both at times and the veil particularly.

"I now have 14 colonies, two in my back yard in the city and 12 in the country. The ones here at home are very gentle, but the ones in the country are anything but. Last year I had one swarm I got in the spring from the south. They were heavy producers but I would like to see the reactions of any one who went about them without veil and gloves. They saw you coming a hundred feet away and stayed right with you.

"My father never wore any veil or

(Continued on page 568)

Monthly HONEY Report

WALTER BARTH, Field Editor

CROP CONDITION continues to vary with location. Dry weather continues in the New England states but over much of the country the yield appears some better than last year. While in general with some exceptions the 1956 honey stock is light. In spite of these conditions the market is dull and in some areas has weakened further. Interest in honey for export has picked up slightly but the European import situation is still obscure. The beeswax market shows signs of being soft due mainly to a reduced price of foreign imports.

Here in Texas, honey prices are beginning to jell with good honey bringing 11½ to 12 cents per pound delivered. Generally these prices are with cans returned. Much of the Texas honey is very high in moisture and is worrying beekeeper and packer alike. These prices also hold true in New Mexico and Arizona.

The California sage flow didn't materialize while the alfalfa flow has been fair to good. The Pacific Coast honey market is not too clear but packers and beekeepers agree that honey prices will be down from one cent per pound to two cents per pound on darker grades.

Leaving the Coast and heading toward Utah we find a good honey flow in progress from the second crop of alfalfa, and bees are in good shape so that the outook is optimistic. A good white honey flow is on now in Colorado, too. Just a few weeks ago I had the opportunity to see some water white honey from Utah and it was probably the finest honey I had ever seen. Mr. Roland Stone of the Superior Honey Company, who showed me the Utah honey sample, said that the high quality of this water white honey was not unusual. I have seen a lot of water white honey in New York State but nothing to compare with the quality of that Utah honey sample.

In the midwest around Iowa lots of rainfall continues. Unfortunately, much of the yellow sweet clover is past its prime and there is very little white sweet clover around, and only a small amount of white Dutch clover. However, the honey flow is good when bees can work. As far as the other honey plants are concerned, basswood has yielded well and considerable honey from alfalfa and heartsease is expected. No honey movement is reported or offers made and the old crop is all gone. In view of the declining honey prices in other areas it will be interesting to see what develops in this prime honey region.

The reports from the Great Lakes states are spotted except for one thing —all agree that the quality of the honey is the best in years. Some areas are reporting flows of water white honey. Actually, unfavorable weather (too much rain) is preventing bees from working in this area.

Going further east in Pennsylvania we find reports of good honey flows of high quality. New Jersey, on the other hand, reports a gloomy picture. The honey crop in parts of New York is spotted and that has been the rule in recent years. However, central and western New York reports a good crop on the bees and the quality is tops. Prospects in New England are not too good because of a severe drouth in this area. Only half a crop is expected in this region.

Going south into Virginia we find bees in good condition and a fair crop is expected even though sourwood bloom was badly hit by storms. Honey prices in this state have fallen two cents per pound. Prices in Florida are down, too, in a dull market. The picture is brighter in Alabama but there is little to report from Mississippi and Louisiana where beekeeping was so hard hit with recent storms.

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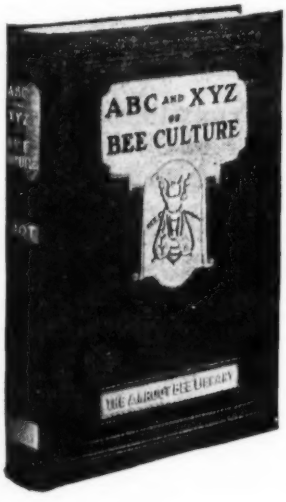

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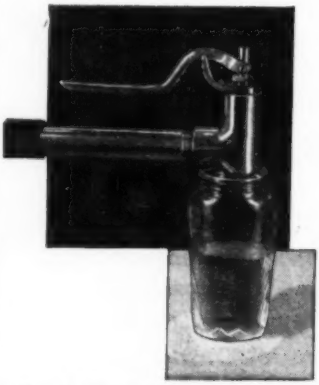

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Selling Honey to Roadside Stands

ROBERT M. MEAD
White River Junction, Vt.

Large parking area, a $5,000 building, two or more clerks— that's the trend in roadside stands today.

THE ROADSIDE STAND has become one of the best outlets for honey in the United States, an outlet that is of especial value because it enables people to buy honey who would rarely bother to buy it anywhere else, or who, for some special reason, do not find it available at regular trading centers.

But before you rush to supply these stands with honey there are some things that you should understand about roadside stands, their owners and operators, and what they expect of a product.

In the East the roadside stand business started back in the dirt road and Model T days as a sort of hot dog and soda pop deal. Sometimes, in those days, the stands were kind of crummy, the hot dogs a bit the worse for old age and the service left a lot to be desired. But with the coming of paved roads and heavier traffic the roadside stand business began to grow up. Today it is definitely big business. Not all the stands are ten thousand dollar or more creations but most do offer a wide variety of goods and in their season do a volume of business comparable to any good market.

The Owners Are in Business to Make Money

That may seem like a totally unnecessary statement but every beekeeper who wishes to sell honey to a stand owner should read it over about a thousand times before he starts out on the road with his product. There are a few owners who like honey enough themselves to handle it anyway, but they are in the minority. Most stand owners try to make a year's living in a few peak months and they can spare little senti-

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Typical housewife stand. She does housework, waits on customers when the bell rings. Sells more honey than some larger places.

This stand owner is a beekeeper, so honey gets a bigger play. This is The Maple Honey Bowl, Ferrisburg, Vt.

ment on a product. They have only one way of judging a product. Does it sell? Does it move reasonably fast? Does it offer a good margin of profit? Is the source of supply reliable?

It may come as a shock to beekeepers, but it is true that the stand owner would just as soon handle wooden Indians as honey; providing, that is, that they would sell, sell fast, and show a 50 per cent profit.

In the East, where I really know the business, the honey harvest and the roadside stand business, do not quite mesh as far as the time element is concerned. Most of our honey is harvested in August. By the time it is extracted and bottled the stand owner is looking Labor Day in the face and thinking of cutting down his inventory for the few short weeks he has left. Some stands even close right after Labor Day. There is only one solution to that situation and that is to carry honey over. It is not difficult at all to carry over extracted honey. What we have is stored in 60-pound cans. It usually granulates over winter and has to be heated and strained before bottling, but if the heating is carried out with good judgement it is still a nice product.

Carrying over chunk comb for our chunk comb packs is another story. In the first place, it is often difficult to produce enough of it so that we can have some to carry over. Then it is a fairly difficult product to store over winter. It should be stored in a warm dry place and then some seasons part of it will start to granulate anyway, spoiling the appearance. In this section there seems to be little one can do about granulation in chunk comb as it all depends on the nature of the season's crop. One year it will keep in perfect shape and the next year part of it will be unfit to pack after six month's storage. All I can say is that the demand is such that it seems worth while to try to carry some over.

Buyers Want Honey When They Want It

One thing that you learn quickly is that the stand owner wants honey when he wants it, and right then, and that if he happens to be off the notion you might as well stay home and nail up frames—you certainly can't sell honey. Most stand owners start their season in May or June. It is the beginning of a new year for them and they start with a good deal of enthusiasm. If you want their business it is a good idea to be on hand when they are stocking up, and never mind if it is a day that you would rather be doing something else—that is the time or never. After that, whether they want to see you or not depends

almost entirely on the state of business. A few bad week ends will put them in such a frame of mind that they would not accept honey as a gift but then it takes only one good week end to put them in a buying mood again.

If stand owners are particular about when they want to buy honey they are also particular about the pack and quality. Individual ideas as to what pack

Honey competes with many items on Vermont stands. Maple syrup is what the state brags about, but honey sells well, too.

sells best are sometimes based on common sense, sometimes on prejudice, and must be catered to in any case. Just how far should the beekeeper go in putting up a variety of packs? That will depend on how seriously you take the roadside stand situation. If you are going to make it your business then you will have to pack whatever they ask for. I have always disliked the eight-ounce jar because it holds so little honey and takes up so much time but the stands, some of them, want it because it sells to children, and sometimes to adults with just a little change left over, so I pack the eight-ounce and try to pretend I enjoy it.

This stand owner depends on display to sell.

Then again there is the item of starting something and forever afterwards having to keep up with it whether you want to or not. When I started packing the two and one-half pound chunk pack in glass I knew that this pack was put up differently in different sections of the country. Most of the difference lies in the amount of chunk comb used.

Another large Vermont stand. They sell a lot of honey, but have 1,000 other items.

XUM

I wanted to make a bang-up pack so I used a lot of chunk in my pack. It sold well and still does and I still have to use a lot of chunk in it because my customers got used to this way of packing it and will not willingly take anything else.

Stand Owners Demand Quality

One thing stand owners demand is quality and for that no one can blame them. In this section they want light honey and they want to call it clover honey. To save a lot of useless argument I sell as light a blend as possible and it is all clover. Of course, some of it comes from vetch, some from sumac, some from basswood, some from raspberry. However, it is intensely impractical to write a treatise on bees and flowers for every one who wants a case of honey. Calling it clover seems to make every one happy and by the same token you can call a darker stronger-flavored honey "fall flowers" even if is gathered in the spring.

One other thing that stand owners look for is a reliable source of supply. For one reason and another the beekeeping industry has earned a bad name in this respect. Ever so many beekeepers have put up a good product, gone out and done a fine job of selling and then vanished, leaving some stand owner wondering if all beekeepers are mad and/or crazy. You have to look at this from the stand owner's viewpoint. When honey sells well, and there are times when it sells very well, he wants to replenish his supply. He wants to replenish it then, when trade is hot, and not at some beekeeper's whim, three weeks later, when trade may have fallen off. This poses some problems for the beekeeper who wishes to hold this trade but the problems are not insoluble. I have stayed up nights to bottle and delivered days until I wasn't sure which direction I was going, but that is part of the deal.

Three Types of Stands Selling Honey

There is the so-called farmers' market which is more or less of an open air affair in this section and which handles a wide variety of native-grown fruits and vegetables, plus honey and maple syrup. Secondly, there is the more elaborate type of establishment which is a tourist's gift shop. Some call themselves "10,000 Gifts" and some are called "20,000 Gifts" but the idea is the same. They do offer a wide variety of articles and honey will be among them if you can convince them that it pays to carry it.

I have a third type of stand selling honey that it is difficult to name as a class. This type consists of a farm wife who wants some extra money and whose equipment may consist of a table or a cupboard and a simple sign. She will usually sell just honey and maple syrup and perhaps a few simple homemade articles. The fact that her business is not elaborate is no gauge of her value as a honey outlet, however. People on the road like to stop at these simple places and some of the owners move a surprising amount of honey in a season.

I have been asked if the whole business is not overdone, and that is a question that should be answered. Some one may easily make the statement that there are too many roadside stands plus too many beekeepers already fighting over their business. This, however, is like saying that there is too much business of all kinds in this country, already established, so that no one should try to start anything new.

The roadside stand business has a tendency to multiply itself so that when one starts another is built near it. Thus some areas are highly commercialized but others are left untouched. There is probably room for a few more if the builders have the energy, imagination, and business ability that counts in this country.

The same can be said for beekeepers trying to sell to the roadside stand industry. Near top honey producing areas the competition can get pretty hot, but there are other areas not yet developed, where a beekeeper who is also a good salesman can build a substantial yearly sales record. He will have to work like the devil to do it and whether the returns justify the effort is a question each man will have to answer for himself.

One thing is certain. The roadside stand is one of our important outlets for honey and should not be neglected.

A Glimpse of Queen and Package Production

HOWARD J. ROCK, Dale, Wisconsin

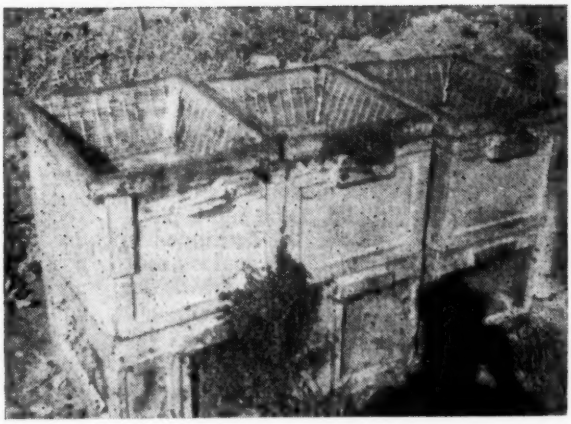


Fig. 1. These shaking boxes are most efficient in getting out large numbers of packages in one work day. For profitable production one requires much practice or the bees will be ruined from overheating or dripping nectar.

"LET'S GO and get them!" I was rudely awakened from a very sound sleep and in the first few confused moments I wondered about why and how I happened to be going to work in the cold of an early California dawn.

Actually, Jack Shackelford, a prominent queen and package bee producer, had taken me on to work in the queen yard and to shake packages.

The queen work was very familiar to me as I had reared many thousands of queens before but as far as shaking bees on a commercial basis was concerned I was indeed a novice. All of us shake combs free of bees every day in our daily chores of inspection, changing combs, etc., but I dare say that without special instruction and much practice, very few of us actually know how to shake bees.

Fig. 1 shows the type of shaking box used in the Sacramento Valley. As most of the bees will be shaken during a nectar flow, one must be able to dislodge the bees from the combs without shaking nectar over the bees themselves. This skill is developed over a period of time and is accomplished by a very short, gentle movement of the comb. Otherwise the drenched bees will not pass through the excluder but will pile up and suffocate. Have you ever seen pounds of dead, blackened bees?

Six Hundred Packages Per Day

These shaker boxes make it possible for a trained crew of four men to get over 600 packages per day with three men shaking and one man handling the scales and nailing up. Such efficiency helps keep down the rising cost for producing a package.

Fig. 2 shows the truck being readied to roll to the second yard of the morning. One gets a good view of the power hive loader. It works off the truck battery.

These hive loaders have really emancipated the busy beeman from back-

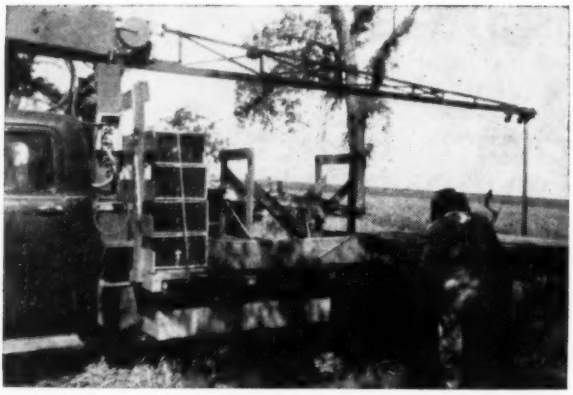


Fig. 2. Basil Henderson tieing up the load after shaking the first yard. The hive loader is always on the truck. Being such a versatile tool in the hands of an expert it lightens many an onerous task.

breaking work and have allowed many extra hours for more vital bee work, thus making the season's operations more profitable and much more pleasant. There is much skill demanded in the efficient use of this ingenious tool. Before having actually used this device I "reasoned" that its utilitarian value was limited but its every-day use has convinced me of its versatility, even in orchards and on uneven terrain. I do not see how any commercial beekeeper can expect to keep up in a competitive world without one. Then, too, this hive loader will undergo many improvements as time goes by.

Fig. 3 shows a tractor with a lift and a roto-tiller which makes beekeeping more efficient and pleasant in Shackelford's apiaries. Fire is a big threat to bee yards in California but the making of fire breaks is a very simple operation with the help of the roto-tiller. By means of the lift and suitable pallets large quantities of feeds and feeders can be loaded and unloaded with a minimum of time and effort.

The whole theme of California beekeeping as I see it is to eliminate all drudgery and to produce as cheaply as possible to offset high prices and expensive labor. Hourly labor rates for good help are high out here.

There is a well-appointed cell-building yard with a heated grafting house, wind breaks, and pallets of feeders.The feeders are 10-pound pails which have been dipped in a tar mixture. This treatment makes them last and last.

The grafting house is well lighted and has two medium-sized incubators for hatching queens, warming cells, and keeping brood warm and moist while waiting to be used for grafting. This house can be heated or ventilated according to the weather.

The cell builders are large queenless colonies. They are given solid combs of just sealed brood with every frame of grafted cells. Each colony receives

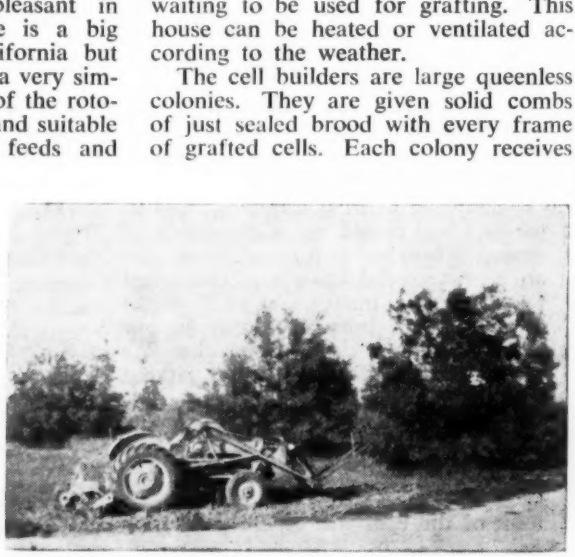


Fig. 3. The tractor is a very useful implement for cleaning yards, loading trucks, cleaning land for nuc yards, and scores of other uses for efficient management Acacia trees in the background.

three frames of cell bars, one given every third day. I noticed that acceptance was always very good in spite of the fact that swarm boxes were not used. Most commercial queen breeders that I have known did use swarm boxes with queen-right finishers. As long as good queens are produced it doesn't matter what method is used. It seems that each queen breeder has a system that is truly unique.

The Sacramento Valley is very well adapted to queen and package production. There are many pollen and honey plants. To mention a few, there is wild radish, filaree, prune trees, almonds, mustard and vetch. The commercial orchards are very large here. As the increased population encroaches on the acreage devoted to prunes in the Santa Clara Valley new and very large prune orchards are being established in the Sacramento Valley. Prune orchards are especially prized by the beekeeper as they yield nectar in large quantity.

As with queen and package production elsewhere, this is just a glimpse of the active part of the year. After the last orders have been filled the bees must be put in shape for next season. Every hive is requeened, disease inspection goes on all year, a relatively small crop of honey is harvested in late summer, entire supers of feeder honey must be set by, most of the apiaries are moved several times to take advantage of every potential honey source and of course all the routine shop chores such as painting and repairing.

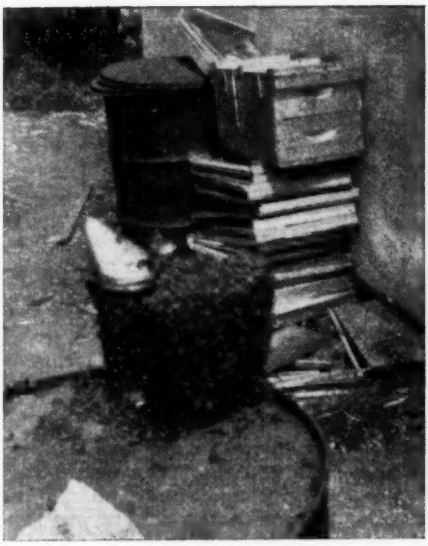


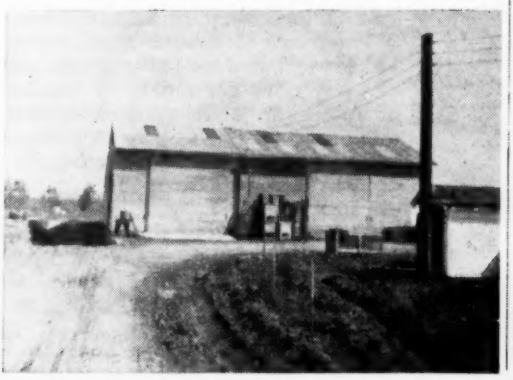
Fig. 4. I had been killing old queens and after seeing the bees swarm over my smoker I couldn't help but reflect over Dr. Butler's work on "queen substance".

At Shackelford's, many frames were being nailed, wired, and completed with foundation with which to replace drone comb and combs injured or broken during the shaking season. Drone production must be kept at a minimum or shaking operations will be slowed up

(Continued on page 574)

Fig. 5. Basil Henderson bringing out the well-filled lunch boxes. With all the conveniences the day's work is long and fatiguing and only a strong healthy person can meet the requirements of the active season.

Fig. 6. Main work shop of John Shackelford in the Sacramento Valley. Pallets are piled by the front door ready for a multitude of routine apiary operations. There are several more buildings for wax work and for extracting.

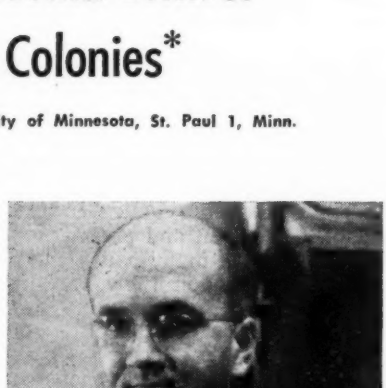


Fumidil B and Nosema Control in Wintering Colonies*

by DR. THOMAS A. GOCHNAUER, University of Minnesota, St. Paul 1, Minn.

NOSEMA DISEASE of the adult honeybee caused by **Nosema apis** has been a constant problem in Minnesota beekeeping. Recommendations commonly made over the years to the effect that affected colonies be placed in warm, sunny, well-drained locations are sometimes hard for the Minnesota beekeeper to follow. Cold, rainy spring weather or the unrelieved marshy lowland character of much of the better honey-producing areas in northern Minnesota requires some other approach to the problem.

The discovery of the effectiveness of the antibiotic fumagillin (1) and of organic mercury-containing compounds (2) in the control of the disease gave hope that the other approach needed might be through chemical control. It was found (Table I) that Fumidil B could effectively prevent nosema disease in inoculated package colonies.



Dr. Thomas A. Gochnauer

Table I. Effect of fumagillin dose level on nosema infection in artificially inoculated colonies. (2 colonies per dosage level)

Fumagillin level*	0	10	20	40	80	170
Level of infection	2	2	2	0	0	0
(16 days)	3	2	2	0	1	0

* milligrams of fumagillin activity per half gallon of syrup fed.

These colonies were hived on May 18, 1954, and were fed one-half gallon of sugar syrup containing various levels of fumagillin activity, as well as 175 million nosema spores as an inoculum, and 0.5 gram sodium sulfathiazole to protect against American foulbrood disease.

The application of these observations to wintered colonies needs some extension in Minnesota. In a general way, one may say that southern Minnesota beekeepers winter extensive numbers of colonies while in the northern half of Minnesota more dependence is placed on package bees. If it could be shown that wintered colonies could be protected against the spread of nosema within the hive by Fumidil application in the fall we might expect a reduction of winter loss and extensive spring dwindling that frequently occurs with nosema infection. If it could further be shown that the simple application of Fumidil B in a powder form to colonies being prepared for winter would give protection against nosema, management methods would be simplified.

Fortunately, for the purposes of experimentation, the University apiaries had an outbreak of nosema infection in the spring of 1956. Thus they became eligible for the studies outlined below:

Methods:

The bee yards were treated in October of 1956, at which time samples of bees were removed for examination.

* Paper No. 3759, Scientific Journal Series, Minnesota Agricultural Experiment Station, St. Paul 1, Minnesota.

Colonies in yards I and II received a powder application consisting of 200 milligrams fumagillin activity in Fumidil B plus two tablespoons powdered sugar as an attractant or powdered sugar alone for purposes of comparison. Yard III was treated with 200 milligrams activity in the form of Fumidil B dissolved in sugar syrup, with check colonies receiving syrup alone. These colonies were fed with tin pail feeders.

Samples of bees (25 from each colony) were ground in 2.5 ml. water. A drop of the suspension was placed on a slide, covered with a cover slip, and examined with the microscope at 440 X magnification for the presence of nosema spores. Samples containing spores were recorded in four groups according to severity of infection: grade 3, samples containing more than 300 spores per microscopic field; grade 2, samples containing 31-300 spores per field; grade 1, samples containing 1-30 spores, and grade 0, samples with less than a spore per field. Samples of each colony were taken in October, 1956, and in March, 1957. The results of the observations were averaged and appear in Table II.

Table II. Effect of dry and syrup fed fumagillin on natural nosema levels in wintered colonies.

Yard I	No. hives	Fall sample	Spring sample	Change
treated	(10)	0.5	1.2	+0.7
untreated	(11)	0.0	1.4	+1.4
Yard II				
treated	(11)	0.6	0.6	+0.0
untreated	(11)	0.2	0.2	+0.0
Yard III				
treated	(5)	0.8	0.6	−0.2
untreated	(7)	0.3	0.7	+0.4

Discussion:

The data in Table I indicate that a dose of 40 milligrams or more of fumagillin per colony will protect against nosema disease in newly hived package colonies. However, 200 milligrams applied to the wintering colonies in October had relatively less effect. Yard 1, treated with Fumidil as a dust, underwent a decided average increase in infection through the winter, although the average increase was less in the treated colonies. Yard II, also dust treated, showed no change on the average in either treated or untreated colonies. Yard III, in which fumagillin was fed dissolved in syrup feed, showed a slight reduction in average level of infection in the treated colonies, while those untreated experienced some increase.

It would seem from the data presented that fumagillin is more likely to be effective in newly-hived package bees than in large, established wintering colonies. In the former case, the critical period in which the fumagillin should remain active is a matter of three weeks until the first uninfected adults are reared. In the latter case, there is a period of several months over which the fumagillin is expected to control disease development. Jamieson (3) and Mommers (4) have recently reported control of nosema by Fumidil B in colonies going into winter. Mommers found some increase in nosema in treated colonies the following spring, but the increase was less than that in the untreated colonies.

Summary:

The treatment of colonies in the fall with 200 milligrams of fumagillin applied as Fumidil B appeared to lessen the increase of nosema over the winter period. The effects of treatment were much less marked, however, than treatment of newly hived package colonies which had been inoculated with nosema spores and given treatment at the time of hiving.

Under test conditions in inoculated two-pound package colonies, a level of 40 milligrams fumagillin activity per colony appeared to give good control of nosema disease, and the fumagillin activity was not apparently impaired by the addition of sodium sulfathiazole to the mixture.

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Wintering Bees in Northern Saskatchewan

as practiced by
J. E. HASTINGS, Birch Hills, Sask.

QUITE OFTEN I receive enquiries from my customers in the United States on the methods used and results obtained when wintering bees in my northern location. I refer particularly to northern Saskatchewan. I live less than 30 miles from the northern border of cultivated soil in this part of the province, so climatic conditions are vastly different from those of beekeepers who winter bees in the United States.

Great temperature differences can be expected during a 12-month period. During severe winters, cold spells ranging from 20 degrees below zero to 60 below lasting several weeks can be anticipated. This in addition to only six or seven hours of daylight and a sun with practically no heat, tests the endurance of colonies to the limit. Seldom, if ever, do we get a clearance flight from mid-October until the latter half of March.

The winters of the past few years have shown a tendency towards moderation. Low temperatures still occur but with less frequency and the cold periods are of shorter duration, being punctuated with milder spells, the mercury rising to the low 20's above zero occasionally.

Having had several years' experience wintering outside in this climate it is only natural to expect to profit through the knowledge gained by various mistakes and experiments I have made. Also where the three main races and hybrids between them have been tried, clear cut advantages and disadvantages are evident. Even within one race a certain strain may transmit traits desirable or detrimental to satisfactory wintering.

It is interesting to note, for instance, how one strain will use consistently less feed in winter and as a rule this is linked with strains that are quiet and never in a hurry for early clearance flight. Other strains may show restlessness for the entire winter so they use more stores and have a tendency toward dysentery. When these factors are observed often the blame is laid on inferior feed but this is not always so.

Three Races Tested

As stated before, the three common races have all been tested in my apiary as to winter hardiness. The dark races

(Caucasian and Carniolan) gave the better results although some Italians showed considerable winter hardiness. Hybrids between yellow and dark seemed to vary greatly, as they do in production, temperament, etc. I finally settled on the Mountain Grey Caucasian in a pure form as the best all-round bee for this climate. The climatic conditions of their native habitat are quite rigorous, thus resembling our own. Toward the end of the honey flow they concentrate on storing enough honey and pollen in the first and second brood chambers for winter needs. Italian colonies, on the other hand, will be found with little if any surplus in these hive bodies. Caucasians are able to fly at lower temperatures also and so they obtain clearance flights which might otherwise be missed. They definitely winter on less stores.

For wintering in the North, one full super of the finest white honey per colony is absolutely essential. They may not use all of it but reserve feed resembles a healthy bank account. Surplus honey is not wasted and may mean the difference between death and survival in a backward spring.

The finest white honey; let me emphasize this. When bees can expect no flight for several months the best feed is poor enough to slow down the accumulation of waste material within the bees' bodies. Honey of this quality granulates slowly and is seldom of a hard consistency, so the bees can obtain their requirements with greater ease, particularly when they cannot secure water to soften their stores.

Pollen, of course should be included. An examination of the lower brood chamber should reveal several combs heavy with pollen. Even in a severe climate like ours, brood rearing will begin in February long before natural pollen is available. So supplies must be on hand to assure gains in colony strength in early spring.

Colony strength for wintering should not be measured in the numbers of bees alone but by the numbers of young bees reared from mid-August on. A colony bursting at the seams with bees in October may be a complete flop for wintering. Possibly the old queen was superseded in early August and in an early cold fall the new queen will have raised few bees to carry the colony until spring. Actually a cluster at winter's beginning is no stronger than the percentage of young bees it contains.

It has been my practice to unite mating nuclei at the conclusion of queen rearing each fall for wintering purposes. These, besides the young queen, may contain as little as four combs and not over eight combs of bees. These colonies consist of possibly 90 per cent young bees from late emergence that have done little if any field work. After being given a super of honey, they are packed for winter similar to full strength colonies. Seldom is loss encountered and their feed consumption is low. By unpacking time, around May 15th they are equal to regular colonies—sometimes better. In my opinion these nuclei colonies are actually stronger in the fall than many of the other colonies.

Too Many Old Bees Detrimental to Good Wintering

Old bees in a colony during winter are a hazard. They are restless, consume more honey, and create excessive heat. If the top entrance remains open, they may not do too much damage. However, in a climate like this, the top entrance may be closed and thickly crusted with hoarfrost from escaping moisture for long periods. These old bees cannot escape and perish. In their attempts to locate an entrance they cause considerable disturbance to the colony through their restlessness which may cause a rise in temperature, premature brood rearing, and late dysentery.

A desirable site for a winter yard should be on high ground affording good drainage. Protection from the wind should be provided on the north, west, and east sides. The best protection is a margin of trees dense enough to allow little or no wind to strike the colonies. A site protected on all four sides yet allowing full sunlight is ideal.

Bees are wintered in double brood chambers. The lower one should contain some feed with a good supply of pollen; the upper at least 50 or 60 pounds of fine, well-ripened honey.

Both lower and upper entrances are provided. The best lower entrance I've found is a slot six inches long by three-

XUM

eighths of an inch wide cut in the entrance cleat. This narrow slot eliminates mice but provides sufficient entrance for early spring flight. For an upper entrance I prefer one about one inch square accomplished by boring a hole as near as possible to the top of the food chamber on the south or front end. Two years ago I found a better method. An inner cover is made of three-eighths inch lumber with a one inch by one inch rim. On the front end a one inch by one inch square notch is cut from the rim to provide an entrance. A four-inch square is removed from the inner cover toward the front end and a double screen made of hardware cloth is used to cover this. One layer on either side. This allows the moisture to rise into the upper insulation, should the top entrance become clogged with frost and ice. Colonies so packed are always dry.

In protecting colonies for winter, both packing cases and tar paper wraps have been used. The wrap has been found highly satisfactory and I now use it entirely. I use two inches of planer shavings or dry chaff and straw on the back and sides. On the front the packing should taper from two inches at the bottom to near nothing at the top. Tack the tar paper against the upper hive body just below the entrance. With light packing more of the sun's heat is absorbed through the tar paper to the benefit of the colonies.

Six inches of insulation are put on top of the inner cover and the four corners of the tar paper wrap are simply folded parcel wise over the packing and secured in place with nails forced through the folds and then forced back again as would be done with pins joining cloth. This allows a four to six inch square opening to allow excessive moisture to escape. The hive cover is placed over this and secured with a brick or twine tied from the twine which encircles the hive and tar paper, up over the cover and down to secure on the other side.

Another idea developed to secure the tar paper to the hive body and to control the upper entrance is to use a thin piece of board (plywood preferred because of durability) two inches by two and one-half inches. As near one end as possible bore an inch hole. When you come to securing the tar paper for the top entrance, place this board so the hole in it and the one on the inner cover correspond, with the long end down. Drive one or two small nails through the lower end securely into the super. If placed properly this will eliminate any possibility of upper insulation dropping down and clogging the entrance. With your knife puncture the tar paper so the bees can enlarge the opening as they will. Sometimes when warm, unseasonable weather continues for the first part of the winter, bees will chew out the entire inch hole for ventilation. When cold weather returns it is a simple matter to take a small scrap of tar paper, slide it in between the block and the entrance from the top to reduce the entrance to the desired size.

If the block and inner cover are correctly placed, no difficulty will be experienced in sliding the tar paper into place and yet it will remain firm enough to remain in position. If the block is nailed at the bottom only, this permits removal of the inner cover for early inspection without pulling nails and disturbing the arrangement.

A periodic inspection of the colonies in winter and early spring is desirable. This, of course, is carried on from the outside. Much can be understood of their condition by placing an ear to the upper entrance and "listening in". If there is barely an audible hum with a peaceful sound you are reasonably safe in assuming all is well. During cold weather the upper entrance should be crusted with frost. Should an open damp condition exist you will probably hear an excited hum with bees seen running around the entrance, some attempting flight only to perish in the snow. This spells trouble, either from too many old bees, faulty feed, dysentery, or even a dead queen. There is nothing to be done but hope for an early warm spell to allow flight and inspection. These colonies may die or survive in a weakened condition.

I am a firm believer in checking bees as early as possible in the spring. Many a colony has been rescued that otherwise would have been lost. If the beekeeper is experienced very little disturbance is necessary and they may be worked quite rapidly. The first day the

temperature reaches a point where bees are flying rapidly (from mid-March on here) remove the upper insulation enough to prevent any of the material dropping inside the hive. Lift the inner cover and you should be able to see what the strength of the colony is besides the amount of stores on hand. A super with combs of honey should be at hand to enable you to remove empty, unoccupied combs, should the colony be low in feed, replacing with full ones.

Some colonies may be of fair strength, yet appear scattered and listless with a cry of distress. Better check this one as it may be queenless or have a useless queen. Lift out a few of the central combs where most of the bees are and check for brood and eggs. Also, while the combs are out, look down into the top of the lower brood chamber to see if there is evidence of a brood nest. If no brood is located unite these bees to a queenright colony as soon as you can. I often winter over a few two or three frame nucs, two to a hive in a partitioned super for just such an emergency.

Do not keep any colony open longer than necessary because you may chill the brood. Remember brood at this time of year is beyond value. An experienced beekeeper can just about read the whole story at a glance.

Packing should be left on until around May 10 to 15. These are our dates for making spring divisions so the whole operation may be handled at the one time. Queens for divisions are secured from southern breeders.

Results are the only yardstick by which we can judge our wintering methods. After several years of experience and by making slight alterations in packing, ventilation, etc. losses have been cut from highs of 10 to 15 per cent a few years back to none for the past four years. The past winter has been deficient in snow cover and more open than usual and could possibly result in higher mortality of wintered colonies than experienced in normal years.

Sweetness on the Desert Air

(From Chemical & Engineering News, July, 1957)

PLASTIC "FLOWERS" are in bloom this summer in the dry, barren stretches of Arizona. The artificial blossoms developed by A. W. Woodrow of the Department of Agriculture's Southwestern Bee Culture Laboratory at Tucson, are being set out, along with bee colonies, in isolated areas.

USDA bee specialists are using them in bee feeding experiments. They hope to find out what makes real flowers attractive to bees in order to solve pollination problems. They also are using the artificial flowers to determine the influence of weather, insecticides, and hive placement on pollination and the amount of nectar a bee will collect.

Many studies have been made of caged bees, USDA scientists point out, but these do not provide good enough information; bees are social insects who do not lead a normal life when caged. In such situations the bees are deprived of a queen, must get along on an enforced diet, and are restricted in their movement. But by using artificial blooms, bee men can study bees in the wild and at the same time control their diets; few other sources of nectar are available in the Arizona areas chosen for the experiments.

Woodrow's flowers are Lucite blocks with holes drilled in them. Sirup for the bees to sip instead of nectar is placed in a shallow dish and covered with the plastic block. The holes permit the bee to reach the sirup with its proboscis, just as it would take nectar from a flower. The larger flowers are connected to a reservoir so that the sirup—a mixture of honey and water which can be varied to determine food preferences—is kept at a constant level; a recorder automatically graphs the amount of sirup gathered by the bees.

Increase in September

MILTON H. STRICKER, Annandale, N. J.

Partial view of yard where increase was made.

IN NEW JERSEY, the 1956 bee season was an unusual one. The honey flow was the best in about 20 years. In the northern section of the state, sumac yielded more nectar than it has in many years. In some sections, Queen Anne's Lace yielded a crop (something that rarely happens in this area). In fact, the surprising yield in August from this plant caused me to do something I never tried before and doubt very much that I will ever do again, but it worked so well, that I will pass it on for those beekeepers that can find it an advantage in their areas.

I had 13 colonies in an area where the fall flow was quite dependable. They were headed by young queens, all laying quite prolifically until the July honey flow of sumac began to restrain brood rearing. Then the surprise flow from Queen Anne's Lace started in August. I thought it was a shame that I had so few colonies in such a good location, and I decided to make some increase.

Demand for queens was particularly good in the month of August, so I did not get around to waylaying some queens for myself until September 1st. (Same old story—shoemaker's children lack shoes—queen breeder lacks queens for his own use.)

I Double the Number of Colonies

Since the 13 colonies were all in one row, I just started at one end of the row and inspected them. I found the first colony had ample brood, so I purloined four frames of brood in all stages, a couple of frames of honey, and placed them in a single-story hive

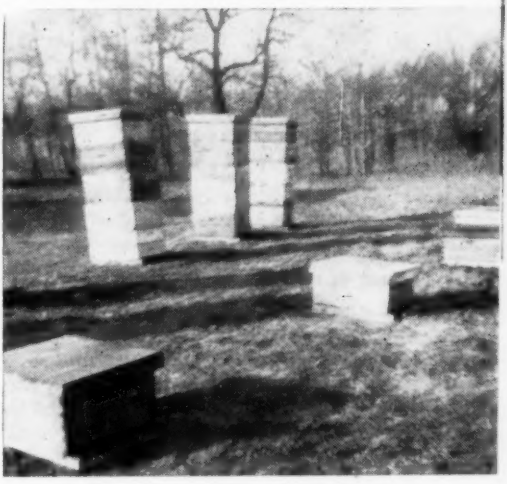
eight feet ahead, thus starting a row of bees directly in front of the established row. When I had finished the row, I had just double the number of colonies I had had when I started.

In most cases I had been unable to find the queens in my inspection, but I didn't let that worry me. In three days I came back and examined the one-story colonies in the front row. Those that I found queenless, I stocked with a laying queen from one of my nuc boxes by smoking the colony and the nuc well and then placed bees, brood, and queen from the nuc box in the colony.

Empty hives in place on first row, ready for increase.

In the few cases where I found the front row single-story job with a queen, I went to the parent colony, smoked it well and then ran its original queen in at the entrance, shaking a few bees around the entrance to help the queen in. I then went back and introduced a new queen into the front row colony by the same method I had used on the others.

I planned to come back the following week and add supers with honey from the parent colonies, since I figured they wouldn't be doing so much, but so many bees had drifted in these colonies



New colonies made on first row.

during the relocation that I decided to put supers of foundation on, especially since the goldenrod flow was underway. In a short time the aster began to yield honey and the foundation was drawn in short order. All 13 colonies got enough to fill the second story after they drew out the foundation.

Now in midwinter (this article was written in January, 1957) they look good; the clusters are just as large as the parent colonies in the second row. These parent colonies did all right too.

Queens have just been installed to new colonies on the third day.

Partial view of yard on October 1st, after crops had been removed from parent colonies.

They produced a crop of honey and each gave away four frames of brood to make a nuc. They all gathered well during the fall flow and now there is a yard of 26 in a good area where there used to be only 13.

Secret of Success Is a Good Honey Flow

I suppose the key to the success of this plan is the abundant nectar offered to these bees during August and September. But, another item is the way these colonies were relocated, allowing the field force to drift into the "nucs" that were placed on the front row. The nectar they brought in insured the acceptance of the new queen, plus the build-up of the colony. The emerging brood soon turned into wax workers, drawing the foundation in the second story.

The parent colonies that were moved back were all populous colonies and the relocation did not hurt them. In a short time their young bees decided it was time to turn field bees since their field force had deserted them for the front row. These colonies were soon in high gear again, storing enough honey for winter and building up enough brood for an ample winter population.

This is the latest in the season I ever made increase in this area, but it did work out well. I can see in certain areas where the fall flow is dependable and young queens are available as both parents and nucs, this system could be used, with perhaps some local modifications, to great advantage to a beekeeper seeking increase without destroying his fall honey crop.

[Dividing colonies late in the season is not advisable unless unusually favorable conditions appear to warrant it. Some beginners have divided colonies in the fall and lost the divisions during winter or early spring.—Ed.]

How Old is the Custom of Clipping the Queen's Wings?

GEORGE DE CLYVER CURTIS, Ramona, Calif.

ABOUT THE YEAR 35 B.C. Virgil wrote: "But when they fly about and play in the air, and think little of their combs, and leave their hives cold, you should restrain them from idle play. Nor is it any great work to restrain them: pull out the wings of the kings (i.e., queens) for if they stay at home, the others will not dare to leave." (The Georgics, IV, 103 - 108.)

Pulling out a queen's wings seems pretty rough treatment; and how to go about it with built-in combs and no veil or smoker might puzzle a modern beekeeper, in spite of Virgil's assurance that it is no great work. Perhaps Virgil and those other straw hive beemen mentioned by Schrot in 1745 used to watch at the entrance and catch their "king" as the swarm came out?

A MODERN BEE YARD IN ATLAS MOUNTAIN: An experimental apiary composed of standard hives and straw skeps. The man on the right is M.J.C. Delmas, the author. He is in charge of this experimental bee yard and his job is like an inspector's job among natives to get modern views in apiculture. Eucalyptus trees in the back.

Beekeeping in French Morocco

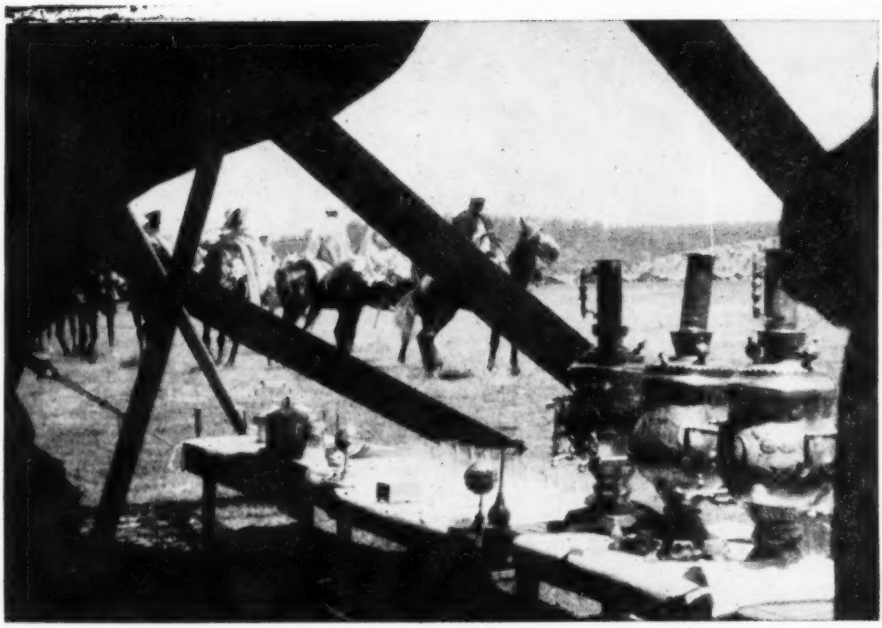
MONSIEUR J. C. DELMAS,
Apiculteur au S.M.P. 31, Khenifra

MOROCCO is a country of contrast. On a road up-to-date made, you will see the last series of motor car and on the road side, a little donkey with a native on it. Two speeds, two philosophies. The contact of these two speeds have done things not too bad. That is to say, that little by little natives are trying to get modern views in all parts of human activities. However, if in agriculture you see already natives with modern equipment, it is very different for beekeeping.

Let me tell you about apiculture in Morocco. Of course there are European beekeepers with apiaries as you see them in U.S.A.; but my purpose is to tell you about native beekeepers. To see them, you'll have to get out of cities. There, in mountains, you are going back to the Latin's time because they live and they work as Latins did. And this is true particularly of beekeepers.

So, to see one of these apiaries, you have to get a horse, or, better, a mule for you'll have to ride in countries without roads (few beekeepers are near roads). As Don Quichotte, you'll have all the opportunities to see what is around and, if we are in March or April, you will be surprised. At your feet, lavender and thyme are growing a lot in the mountains and are the principal spontaneous flowers at that time of year.

XUM



INSIDE OF A NATIVE TENT: In front you see big tea pots where they are making tea with mint and a lot of sugar. Horsemen in the back.

Now we are able to see near a well a tent made of wool and mohair (this, because sheep and she goats are in great numbers). Around the tent, the protection is made of thorny plants. The native we are going to see is both a cattle man and a beekeeper (as they are often). So you'll see three circles of thorny plants; one around the tent, one where the cattle are in and the

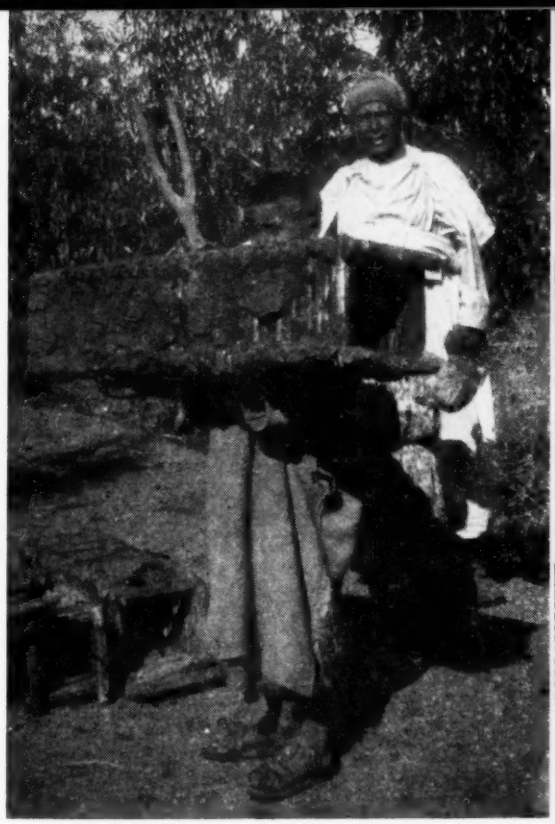
NATIVE TENTS: A row of tents made of wool and mohair at the foot of the hills. The trees on the hills are cedars. We are here at 1.500 meters high. The grass in front of the tents is mountain mint.

third in which we are interested is the bee's place. Here, we see a row of hives of different types; some are made with trunks of false fennel (as you can see in the picture), more frequently with bark of cork-oak. Generally the native hive is long and narrow so the beekeeper is unable to see what is inside. Over the hives they put branches of oleander to protect them against the sun. Hives are placed on stones near the earth.

The native is very hospitable. We are going to take some honey out of a hive and in the meantime his wife cooks some pancakes we'll eat with honey, and we'll have, of course, the traditional cup of tea with mint in it.

So, we take the smoker made of clay (it is a jar with little holes), we put in dry cow-dung, we strike a match, and we have an abundant smoke but, as we have to blow in, we have much smoke in the eyes. There are no bee veils so we have to put a cloth on our heads (and, I assure you, we must have it because Moroccan bees are fighting a lot). With a long knife we are going to get some honey out of the hive. Let the smoker be in the native's hands, they know how to do it better than we do. We are able now to see just in front of the hive, what is inside. There is some honey. With the knife we cut the comb full of honey. If we are lucky, the comb is full of pollen and brood. That happens very often; generally they get five or six pounds of honey from a native hive.

Now we are on a carpet inside the tent, but bees are around so we take the clay smoker to chase them away. Tea is ready, so we have a cup and another one. The native method for extracting honey is very simple. He takes the comb full in his hands and squeezes till there is no more honey in the comb. As he lives in a tent, the native has to do the extraction at night because of bees flying around.



A NATIVE HIVE: Made with trunks of false fennel. Covering it is a cement made of mud and cow-dung. It is carried in the hands of a native boy. In the back is his mother. (Native women are beekeepers, too.)

The native beekeeper works his apiaries twice a year. First, at the swarming time, he puts swarms in empty hives he has ready. The second work takes place just after the harvest. The beekeeper sees what is inside. If the hive has a little honey they cut, cut, cut again, and often their hives are dying in winter time because there is no more food.

Natives are eating honey a lot, as we do now with pancakes made by the wife, but please do not see where they have been made and if the hands were washed or you'll be unable to taste this delicious honey. They have honey mixed with butter or with oil.

That is the job of beekeepers as it was long ago and as it is now in Morocco with natives. Of course, when they go to the market to sell their honey production, they have no car. A jar with ten or twenty pounds of honey does not require it. Their donkey is able to carry them both, the beekeeper and the jar.

XUM

PELLETT GARDENS

HOW THEY GREW

MELVIN PELLETT, Atlantic, Iowa

I WELL REMEMBER the day 29 years ago, when on a clear frosty morning in late winter, I bade goodbye to my parents and climbed into a little Ford truck. I was leaving our home in Hamilton, Illinois, and coming back to take charge of my father's little farm near Atlantic, Iowa, where I had spent my early boyhood days. Yet a minor, with all the optimism and enthusiasm of youth, I was starting in the market-garden business and may have expected to make a million. Although we did not know at the time, the market garden then started was destined to change over the years into several lines of nursery and seed business. I boarded with my uncle and his family, who lived on an adjoining farm. Later I married and my wife and I have a family of two boys and two girls, the older boy having now reached his majority and the younger girl in high school.

Thus began the business under the name of "Pellett Gardens" although the home site and farm had a history before that. My father and mother had moved here when I was a baby and my older brother but three years old. At that time Dad gave up his practice of law at Salem, Missouri, coming here to keep bees and to follow his avocation of nature study and writing. Several acres of cut-over timber were at once set aside as a wild-flower preserve. Here the native flora was to be unmolested and also there was added some variety of wild flowers brought from elsewhere. The home site, directly across the road, is also surrounded by good shade trees and bordered by a grove; much of the early planting has naturalized and is present to this day. The environment attracts many birds, squirrels, and wildlife. It was here that Kent, my older brother; my younger brother, Fred; my sister, Ruth, and I spent our early years.

Starting life in this environment and with Dad's great enthusiasm, instilled in us a great appreciation of Nature. During this time Dad had written a number of books and numerous magazine articles on subjects relating to beekeeping and nature study. In 1918 we moved to Hamilton, Illinois, where father was associated with the American Bee Journal as field editor.

The first three or four years as a market garden and small fruit farm went fairly well for a new venture. Then came a series of reverses. It was well we had started with all the optimisim inherent to youth, since this reserve was all needed to see us through the ensuing years. Beginning about that time, the trend toward mass production and long-distance shipping was to make market gardening, for a relatively small market, progressively less practical. Also began the great depression of the 1930's and the drouth cycle which climaxed here with an almost complete loss of crops in the years 1934 and 1936. The depression we could manage to cope with, but without irrigation, the loss of crops from lack of moisture was insurmountable. We do have reliable water resources here, although not close to the surface and we managed to get started with some

Frank C. Pellett, naturalist and writer, established the wild flower preserve and promoted extensive experimental gardens.

small-scale irrigation from deep wells.

This proved practical to the extent that facilities were added to make irrigation available to our more important crops. Some lines of nursery were added and, during the years, the former market garden gave way entirely to a nursery and seed business. A substantial part of the operation is in berry plants for a wholesale trade; also retail nursery, including evergreens and shrubs. For the past fifteen years we have been issuing a catalog of honey plants and doing a mail-order business with beekeepers and hobbyists.

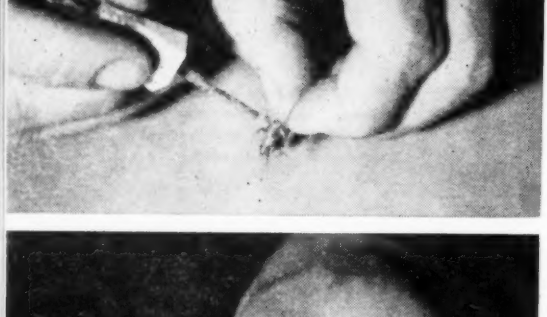
Beginning in the late 1930's until the time of his death, my father, Frank C. Pellett, carried on here some extensive experiments with a wide variety of honey plants. Supported by the American Bee Journal, the project is widely known as "The American Bee Journal Honey Plant Test Gardens". Dad made a lifelong study of honey plants, was author of the book "American Honey Plants", the latest edition of which was published during the last years of his life.

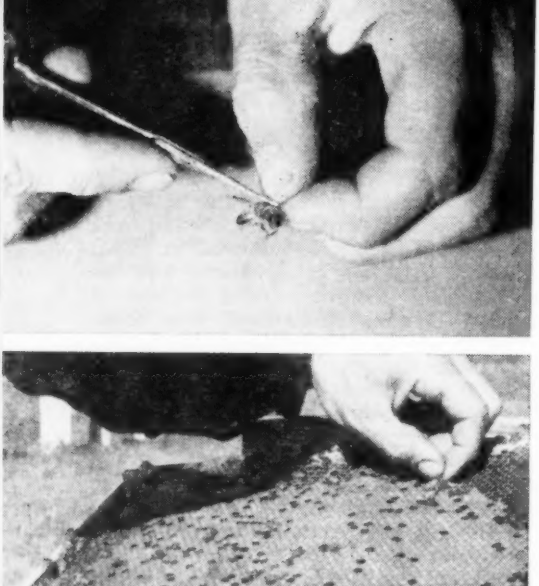
This was an ideal situation in which to start the experimental gardens, since so wide a variety of the flora was already growing here. In addition, hundreds of plants were obtained from numerous sources in this country and abroad, and planted in small beds in the test plots to be observed for their potentialities as nectar and pollen plants and for other uses. Dad brought together many of the plants he had observed elsewhere or about which he had heard, many others coming to his attention through extensive research and the help of correspondents. The wide assortment included numerous forage plants, garden flowers, mints, herbs, wild plants, or most anything that would grow. Although most of the plants tried would turn out to be of not much apparent value or would not thrive in this situation, many promising honey plants have come to light through these experiments.

Those plants which appeared most promising were given further study in larger plantings. One was a small field of Bird'sfoot Trefoil, planted in 1938, which, in so far as we know, was the first field planting of this legume in Iowa. Through trials here, wide interest developed in **Trifolium ambiguum** (Pellett Clover). Climaxing his life study of honey plants, Dad was disseminating much information regarding the nectar potentialities of a large number of plants. The project was attracting visitors from all parts of the United States and from abroad.

As the honey test gardens got under way, a demand was developing for some of the best honey plants. We began, as an interesting small sideline of Pellett Gardens to increase plantings, gather, and make available seeds and plants of those most in demand. As the test gardens progressed, we were getting more and more inquiries for seed, so issued a catalog of honey plants. Now I was exposed to beekeep-

(Continued on page 573)





Notes on Marking, Clipping, and Introducing Queens

WILLIAM T. WILSON and JOSEPH O. MOFFETT

WHILE MARKING and clipping queens, W. T. "Bud" Wilson tried holding the queens by the wings (Fig. 1). After using this method on more than 100 queens, we believe it has some advantages over holding the queen's body between the fingers. First, it is easy to pick the queen off of a frame by this method. Second, there is no chance of injuring the queen by holding her too tightly. Third, she rarely "crawls" away when using this method.

After marking and clipping the queen, she is held for about a minute to allow the fingernail polish to dry. (We obtained good results using undiluted polish, although some people prefer to dilute it with amyl acetate). When the polish has dried, the queen should be placed directly on a brood comb (Fig. 3). If placed on the top bars, she may become excited and run. This may cause the bees to kill or injure her.

Some colors, such as dark green, are hard to see in the hive, while either red or white are easy to spot. If you want to try a new color, it would be best to try it on a few worker bees to see if it can be seen easily in the hive. Different colors can be used each year so that you can tell the age of a queen at a glance. Colors can also be used to determine the origin of a queen.

Be sure the queen is laying before she is clipped (Fig. 2). Since she cannot fly after being clipped, it is essential that she be properly mated before being clipped.

We have had good success introducing laying queens from nuclei to queenless colonies by transferring the queen on a frame containing brood and bees. The frame with the queen is placed in the hive body containing the queenless bees. It is separated from the main body of queenless bees by an empty frame. Then the bees are smoked vigorously. In a short time the two groups of bees get together, while the queen continues to lay without interruption. It is important to have plenty of bees on the frame taken from the nucleus to keep the brood warm until the two units combine.

Live and Learn

by Propolis Pete

HOW MANY OF YOU sell honey through the kitchen door? I guess we all do sometimes, but a lot of you probably get rid of a big part of your crop that way. You can learn a lot about human nature when you do. I usually enjoy it—up to a point. That point is when they stop in at meal time because they know that you are home, and when they expect an hour's lecture on the life and habits of the honeybee. In recent years I have been putting a table by the front door with an assortment of containers on it, with a box for the money. That works quite often, but some come for curiosity, and no matter what you are doing they call for a tour of the bee yard. I don't mind that too much either, especially when they bring a raft of kids along. That means good advertising for honey. These kids will remember their trip and make the customers of the future. It never fails though, that they buy a one pound jar to pay me for my time. On a basis of wages, this works out to around five cents per hour.

The questions that they ask are a scream sometimes. For instance one recently asked was "How does the queen punish a worker who won't work?" Another, "Why don't bees make honey in winter?" Another, "Why do they call it clover honey?" Again, "What do you mean, no honey is ready yet. My lawn is full of dandelions." But the prize of all time came last week. Believe it or not I had this one thrown at me. "How often does a bee die?" Well, with a perfectly straight face, I managed to say "Only once", but had to find business behind a pile of supers until I could get hold of myself. I think this gal wanted to ask me how long a bee lived, but didn't use the right words.

So far as this year's crop is concerned, it looks like it will be about as usual. I have taken it, but have not extracted yet. I don't know what the finished product will be like. I cannot remember when I have seen a bigger assortment of flavors and colors in one crop. I can't keep them separate, because some combs have two or three colors in the one comb. They'll all go into the tank together, and what comes out will be uniform at least. I am not worried, because this happens nearly every four years to some extent, and I have never yet failed to draw appreciative words for the quality.

The story on comb honey is different. Last year, I thought that I had discovered a sure fire way to get it. That is, I started packages early, and fed them clear up to the clover flow. I did wonderfully well for this territory, but this year somebody pulled the plug. I tried three packages, but they all swarmed on me in spite of everything I did to prevent it. I managed to scrape together 33 sections, none of them fancy grade, but salable. I got enough half sections, to put up a case of 24 one-pound jars of cut comb. But I still think that the idea was good, and am going to give it another whirl next year. My three-quarter-depth hive came through fine. I have not weighed the crop, but would estimate about 80 pounds for this one. It is a lot easier to handle, and maybe time will tell if the idea is as good as I think it is.

Another thing about this year that makes it exceptional—I cannot understand why my bees are so tame this year. Not that I object, but I miss slapping the bees that dance in front of my nose. Why I even took my crop without having any trouble, in spite of the fact that there is an absolute dearth of nectar. I had a lot of burr comb, and the drippings from the broken combs should have started a riot. It didn't. In fact the bees just didn't pay any attention to me at all when I was loading the little trailer truck that I pull behind my midget tractor.

You can't help bringing some bees into the honey house when you unload. Usually the bees fly to the windows, out of the bee escapes, and then hang around for a couple of days trying to get back in to rob. This year they flew to the windows and went straight home. Knowing what I do about bees, this is no guarantee that tomorrow when I start running the extractor that they

(Continued on page 570)

Editorials

Poison Insect Spray

REPORTS FROM BEEKEEPERS from time to time indicate damage to bees from poisonous insect sprays. Apparently there are two kinds of programs. One is carried on by the Federal Government in cooperation with local state governments on a relatively large scale, the other local.

The government sponsored programs are generally based on a large area and cover such insects as the gypsy moth, grasshoppers, mosquitoes, Mediterranean fruit fly, etc. From reports coming to us, none of these programs fortunately seem to have done much noticeable damage to the honeybee. One reason that the large scale programs have apparently not proved especially detrimental to beekeeping is the fact that minimum quantities of insecticides are used and their application is under close government supervision. The justification for this program is based on the continuous battle between the insect world and that of man, the loss of which would prove most serious to our food supply.

The other type of spray program which seems to be doing considerable damage to bees is the local application of insecticides by private parties. Unfortunately we still see poor advice being given to the public on times and methods of spray. Not too long ago we noticed a suggestion in a bulletin to the effect that one type of fruit spray should be applied during the blossoming period with no warning to protect honeybees.

Possible help may come indirectly from the insistence by the Federal Government that all food products adhere to the official insecticide tolerances. Unfortunately this applies only to interstate shipments but it may help some and it is hoped that individual states will follow the Federal Government lead and pass similar laws applying to interstate shipments of food.

Stumping the Experts with Bee Questions

DURING THE YEARS some beekeeping programs have included question boxes which made it possible for those in the audience to write their questions on slips of paper and place these in a box which would be opened later.

At a recent summer meeting of the Ohio State Beekeepers' Association there were two such sessions. The moderator of the panel, consisting of five experts, were on the platform. The moderator would reach into a box, pull out a question, read it, then hand it to a person in the panel to answer.

A great deal of interest was shown in this part of the program. After an expert had answered the question, comments were invited from the floor.

One distinct advantage in having questions unsigned is that some beekeepers hesitate to expose their ignorance in asking a question orally.

U. S. D. A. LIBRARY

City that Banned Bees Wants Them Back

DURING RECENT YEARS a few cities throughout the country have banned bees from within their limits. In some instances this has been due to neighbors of city beekeepers being stung, resulting in ordinances requiring the removal of bees from cities.

In some cases neighbors have been stung because beekeepers failed to use good judgement in manipulating bees. If hives are opened during cool days when most of the bees are at home, or, during a dearth of nectar, most bees are likely to resent this. Bees should not be examined during early morning or late evening, but rather, during the time of day when they are working well, carrying in nectar and pollen.

Many city hobby beekeepers who know how and when to manipulate bees have for years kept their hives in heavily populated districts, even in congested areas, without experiencing any difficulty with neighbors. It is an advantage to have the hives in some spot surrounded by a hedge or trees, where bees are compelled to fly up and over, to avoid coming in contact with people or animals.

In some instances a beekeeper may not get along well with neighbors who take their spite out on him by complaining to the city council that his bees are a nuisance. This may result in the beekeeper having to move his bees. However, it has to be definitely proven that the bees are actually a nuisance.

City and town beekeepers should make an extra effort to keep on good terms with neighbors. Some honey passed out to neighbors usually helps cover a multitude of sins on the part of the bees.

Bees are needed in towns and cities to pollinate fruits and vegetables, in fact, there is a shortage of honeybees in most areas at the present time. At least one city that banned bees some time ago now wants honeybees to increase production of fruits and vegetables grown within the city limits. Other cities that banned bees may follow suit.

To avoid mishandling of bees in cities that might result in people being stung, we are suggesting that state and county associations have as one of their objectives, giving assistance to beginner beekeepers in town and city areas regarding the proper manipulation of bees, to avoid trouble with people nearby.

Save Stores by Uniting Weak Colonies

MUCH OF THE so-called winter losses of bees throughout the North are due to either colonies being too weak to go into winter, or not having a sufficient amount of stores for winter and early spring food. Such losses should not be attributed to the severity of winter weather but rather, to negligence of beekeepers.

A colony of bees that dies early in the spring, because of starvation, has consumed a considerable amount of honey which is also lost. This, in addition to the loss of bees, should be taken into consideration.

Colonies that are below par in strength should be united quite early in the fall in order that only populous colonies may be wintered. If all beekeepers would leave an abundance of stores with each colony and provide adequate protection, winter losses throughout the North would be lessened considerably. September is a good month in which to unite under-strength colonies.

The Check-Off Plan

THE CHECK-OFF PLAN (see page 548) was originally conceived at the National Meeting held at San Jose, California, in 1953. The purpose of the plan was primarily to improve the sale of honey on the American market, this to be done by financially supporting research work to learn more about the properties of honey and by promoting the sale of honey through the Marketing Committee of the American Beekeeping Federation and the Federation Honey Institute. The American Beekeeping Federation again went on record as supporting "The Check-Off Plan" in session at the National Meeting at Long Beach, California, January, 1957. The plan is purely voluntary. It appears sound and should be placed in operation by the support of every beekeeper and packer.

XUM

FROM Foreign LANDS

Translated and Edited by ERIKA BARTH

Beekeeping in Norway

EVEN THOUGH NORWAY has long and hard winters, it has many beekeepers. In 1886 it had 3100 beekeepers with a total of 10,000 hives. Today there are 8,000 organized beekeepers and 65,000 colonies with a yearly crop of 6,500 cwt. With a population of only seven million this is quite a lot.

How was such a rapid development possible? The answer is good organization and an understanding government.

First, there has been a legal regulation of all foreign imported honey for the past 30 years. For example: An importer must be able to submit a guarantee as to the purity of the honey and all containers must also be clearly marked "Foreign Honey". The sale of loose foreign honey is prohibited. Each shipment needs a special import license, and most important of all, if native honey can supply the demand in Norway, no one receives an import license. Norwegian beekeepers receive sugar tax free, and imported honey is heavily taxed (approximately one-third of the wholesale price of native honey).

The government subsidizes instructions for beekeepers. The importation of bees and equipment is prohibited because of the danger of bringing in diseases. Since 1947 it is also prohibited to use plant insecticides dangerous to bees.

All beekeepers belong to local associations who in turn belong to the National Beekeepers' Association.

L'Apicoltore d' Italia, January 56.

Bee Diseases

DISEASE CAN STRIKE the best kept apiary. It is, therefore, never a shame to admit its occurence in one's bee yard. It is, however, more than a disgrace to try to hide its presence. One endangers not only one's own, still healthy bees, but also those of neighbors, and all other colonies for miles around. When a German beekeeper tries to hide disease, or does not recognize it in time to prevent damage, he not only will lose any compensation for lost bees, but a suit might be brought.

Suedwestdeutscher Imker, Feb. 1956.

Chinese Honey Exports

A CHINESE SOURCE (China Reconstructs) tells of the large amounts of honey exported since 1955 from Red China. China produces almost pure basswood and excellent clover honey. Because of the warm climate in South China, they are also able to produce orange honey. The crop averages 40 to 50 kg. per colony. In 1956, 3,000 tons of honey was exported, two and a half times more than the year before, and this amount is still to be increased, since the government promotes beekeeping. Most of China's honey is exported to England and West Germany.

Maandschr. v. Bijenteelt, June 1957.

"I read some place they did better if you keep 'em cool."

Cookie Time

MRS. BENJ. NIELSEN
Aurora, Nebraska

Honey spice cookies for the cookie jar.—Photo courtesy Kellogg company.

WITH VACATIONS ENDING and small fry returning to school, there will be bigger raids on the cookie jar and at very definitely predictable times. A banging door, "Hey, Mom, I'm home!" and off comes the lid of the cookie jar.

Every homemaker has her favorite cookie recipes, of course, but who isn't ever on the lookout for another good one? If you never have tried honey-way ones there is a real treat in store for you and your family! There is a subtle flavor sweetness and a rich golden brown exterior no other kind of cookie can equal. As for keeping quality—they stay delightfully fresh and flavor goodness actually improves with age. If you can manage to keep any long enough to age!

Here are a few honey-way ones to help you replenish that cookie jar and may they be good repeaters at your house.

Honey-Spice Cookies

One and ⅓ cups sifted flour, 1 teaspoon baking powder, ¼ teaspoon soda, ½ teaspoon salt, ⅛ teaspoon cloves, 1 teaspoon cinnamon, ½ cup butter, ¾ cup honey, 1 egg, 1 cup whole bran cereal, and 1 cup raisins.

Sift together flour, baking powder, soda, salt, and spices. Blend butter and honey; add egg and beat well. Stir in sifted dry ingredients, bran, and raisins. Drop by teaspoonfuls, about 2½ inches apart onto greased baking sheets. Bake in moderate oven, 350 degrees F. about 15 minutes. Yield: 3 dozen cookies, 2¼ inches in diameter.

Honey Chocolate Chips

One-half cup butter, 6 tablespoons honey, 6 tablespoons brown sugar, 1 egg, 1 cup plus 2 tablespoons sifted flour, ½ teaspoon salt, ½ teaspoon soda, 1 6-ounce package semisweet chocolate pieces, 1 teaspoon vanilla, and ½ cup chopped walnuts, optional.

Blend butter, honey, and brown sugar. Add egg; beat well. Sift together flour, salt, and soda; add to honey mixture. Stir in chocolate bits, vanilla, and nuts. Drop from teaspoon onto greased cooky sheets. Bake in moderate oven, 375 degrees F. 10 to 12 minutes. Cool slightly before removing from sheets. Yield: 3 dozen.

Honey Press Cookies

One-half cup shortening, ½ cup sugar, 1 egg, ¼ cup honey, ¼ teaspoon soda, 2 cups sifted flour, ¼ teaspoon salt, ¼ teaspoon ginger, ½ teaspoon cinnamon, ¼ teaspoon allspice, ¼ teaspoon cloves, and ¼ teaspoon mace.

Blend shortening and sugar, beat in egg and honey, mixing well. Gradually stir in flour sifted with soda, salt, and spices. Fill cooky press half full and press out cookies on ungreased baking sheet. Bake in moderate oven, 375 degrees F. for 10 to 12 minutes.

XUM

The Check-Off Plan

1. What It Is

2. How It Works

Reprinted from pamphlet distributed by the Honey Industry Council of America

What It Is

A NEW ERA has come to the American Honey Industry! In recognition of the necessity to help ourselves in this competitive world, and to promote our product and our industry with greater vigor, the National Honey Packers & Dealers Association beginning August 1, 1955, put into effect, with the enthusiastic endorsement of the honey producers themselves through the American Beekeeping Federation, a plan to raise funds called the CHECK-OFF PLAN that was developed and had been recommended by the Honey Industry Council of America. Here was our well-organized industry working together handsomely on a strictly voluntary project which, embracing small sacrifice, evenly and equitably borne by all, would raise large funds for the industry's own plans for promoting its aims and ambitions.

How It Works

The packer or dealer who has agreed to operate under the plan invites the producer from whom he buys honey to join in by permitting him to deduct from the payment for his honey one cent per sixty pounds which will be matched by the packer or dealer with one cent per sixty pounds. On the purchase of 30,000 pounds the producer would agree to a deduction of five dollars (500 x .01), the packer or dealer would match it with five dollars of his own, and so ten dollars would have been raised for the fund.

As evidence to the producer that ten dollars has been paid into the fund, he will receive from the purchaser of his honey, stamps totalling ten dollars in value—five dollars of producers' stamps and five dollars of dealers' stamps for which the dealer has paid cash in advance to the Honey Industry Council, the owners and custodians of the stamps.

These stamps are of beautiful design in blue for producers, a rich brown for dealers and in denominations of 25s, 50c, $1.00, $2.00, and $5.00. They are made by the American Bank Note Co. and each stamp is numbered when printed to facilitate record keeping and for all around protection. This stamp can be ordered at once by any packer or dealer whether a member of the National Honey Packers & Dealers Association or not, from the Secretary-Treasurer of the Honey Industry Council of America, Mr. Leslie Little of the Tennessee Bee & Honey Co., Shelbyville, Tennessee.

A packer or dealer, let us say, orders $100.00 worth of stamps of various denominations. He gets $50.00 worth of dealers stamps and $50.00 worth of producer stamps. He is automatically reimbursed for the producers stamps when he makes the deductions from payments to producers. Unused stamps are redeemable when approved by the Council.

Mr. Little is bonded for $25,000.00 which it is estimated is the maximum amount of funds he would ever have in his possession at one time.

A minimum transaction shall be for 50c from each, so that a deal for 600 pounds of honey would add a minimum of $1.00, not twenty cents.

At the time of issuance, packer or dealer cancels stamps covering transactions with cancellation stamp furnished by Council.

There is neither intention nor desire to have included any honey on which a tax for honey promotion is already being accessed as in California or Colorado. Packers and dealers in those states who have signed up to support the plan would be expected to bring under our own plan only that honey not subject to their states' taxes. No duplication anywhere is intended.

The custody and final disposition of the funds raised will be the sole responsibility of the Honey Industry Council of America. Already funds are being allotted to the American Honey Institute for its well-known excellent work and to the American Beekeeping Federation for its marketing program.

Supported by this money, research on honey in some of our great American universities is being planned. The policy of the Council in the use of these funds will be to have as its guiding principle at all times the serving of the best interests of the entire industry. With five members from the ranks of producers, two from supply manufacturers, and two from the packers and dealers, it is well constituted for such responsibility.

Most packers and dealers are now supporters of the Plan. Ninety per cent and more of the American honey producers agree to the deduction of one per cent when they are invited to participate. It is suggested to the producers that when they sell their honey to a packer or dealer and he does not invite them to participate that they call this to the buyer's attention, thus soliciting his collaboration.

Let's all join up in 1957! As the years go by we shall be increasingly proud of our great honey industry and its accomplishments through the CHECK-OFF PLAN.

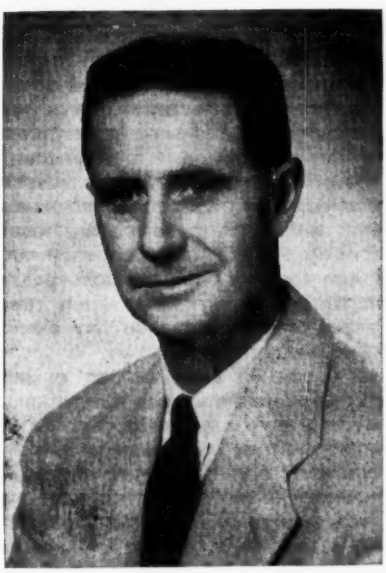
E. C. Martin to Receive Ph.D. Degree

E. C. MARTIN (Bert as he is called) was brought up in Northern Ontario, near Cobalt. He graduated from the Ontario Agricultural College at Guelph in 1933, then worked for several commercial beekeepers in Ontario for a time. From 1933 to 1939 he worked with Dr. E. J. Dyce in the Apiculture Department of the Ontario Agricultural College. For a part of this time he had charge of apiary inspection work.

During 1937 and '38 he obtained his M.S. degree under the late Dr. E. F. Phillips at Cornell University. He then joined the staff of the Entomology Department of the University of Manitoba.

During 1942 to 1945 he was with the Canadian Navy and attained the rank of Lieutenant Commander. From 1945 to 1950 he was provincial apiarist of Manitoba, also taught in the University of Manitoba.

In 1950 he became apiculturist, in charge of teaching and research at Michigan State University, where he is at present. In 1956, Mr. Martin obtained a sabbatical leave from the University to return to Cornell to complete requirements for a Ph. D. degree. All requirements have now been completed and the degree will be conferred in September, 1957.



E. C. Martin

Mr. Martin was married in 1941. There are three children, 13, 10, and 5 years of age.

We congratulate Mr. Martin on his latest scholastic attainment.

American Honey Institute News Notes

by HARRIETT M. GRACE, Director of American Honey Institute
Madison, Wisconsin

TUCKED AWAY in hundreds of college text books are the analyses of many a learned professor on the psychology of communications. It is a shame that this valuable information must be cloaked in obscure terms that defy comprehension. You and I as beekeepers could put these theories to profitable practice.

For what is selling but promoting? And what is promoting but communicating—putting your ideas across to the next fellow? If we can communicate better, we can promote honey better, we can sell better.

So with deft fingers let us unwrap the mantle of five syllable words from around the thoughts of these fine thinkers in the nation's colleges. Let us see if we can grasp a few of the basic ideas of good communication. Perhaps we can use them in everyday life.

What makes a man think and do as he does? Certainly the influence of one man upon another is very great. How is one idea transmitted to another man? By the effective use of words, which serve as carriers for ideas. What makes a man welcome or reject an idea? Choice of words, the time they are used, the tone of voice which speaks them, the regularity with which they are repeated—all influence the reception the idea meets.

In the case of the promoter or advertiser (you and me) the spoken and the written word assume the burden of passing along our basic idea that honey is good and should be eaten regularly. We strive through these words to cue the public to react favorably whenever they see the word "Honey", hear the word "Honey", or speak the word "Honey" themselves.

We would like to have this reaction to honey be as automatic as possible. When someone shouts "f'ire" in a crowded hall, the response is always the same, always immediate, always predictable. It is the response of alarm. How delightful it would be if we could arouse as predictable a response when the word "honey" was spoken, if we could be sure that everyone listening would smile, would nod, and would rush right down to the corner grocery to buy honey.

Of course, we can not hope for such a reaction. But we can aim toward it.

How do we mold such reactions so when we give a specific stimulus such as speaking the word "honey", we can be sure of getting a specific response, in this case the response of buying honey?

These responses are learned. They become a pattern in a person's life. We as honey sellers can teach this favorable response to honey to the public by:

1 **Arousing drives.** Everyone likes the sweet taste. If we can link honey to the idea of sweetness, and show how honey's sweet taste will satisfy the average man's yearning for something sweet, we shall be arousing his basic desire for sweets.

And by offering him high quality honey with its natural good taste, we will be rewarding his trial of honey with enjoyment and thus encourage him to try it again.

2 **Teaching new habits.** When the American Honey Institute sends out honey recipes for print in newspaper food pages, what are we really doing? We are trying to encourage the homemaker to form the new habit of baking with honey. We are trying to teach her how to bake, not just a cake, but a honey cake.

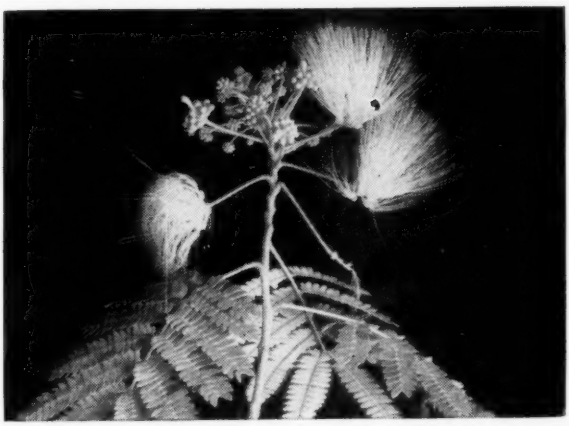
If she likes our recipe and her first attempt to make our cake is a success, she will be rewarded for her efforts and will try it again. And if she tries it often enough, it will become a habit for her to make honey cake.

3 **Breaking old habits, or weakening old drives.** When the beekeeper is wise enough to crown his honey with a smartly designed package, he is attempting to woo the public from its old

(Continued on page 570)

Let's Talk about Honey Plants

by HARVEY B. LOVELL
University of Louisville, Ky.



Mimosa
(Albizzia julibrissin)

ALLIGATOR WEED (**Alternanthera philoxeroides**) covers many small streams and stagnant pools in southern Louisiana. When I was in the southern part of that state in April I found water hyacinth and alligator weed competing for space on many aquatic areas. Bees were working the latter freely and due to the large amount of it in some areas, it must have added considerably to the amount of nectar available. Like many honey plants it is a pest when it clogs water ways and is kept under control by spraying with weed killers. Dr. Everett Oertel confirmed my observation that bees work on alligator weed in large numbers.

Kentucky and adjacent states have had very wet months in May and June. The humidity was very high and showers fell nearly every day. As a result, bees had difficulty working the honey plants. I have a graduate student, William Mitchell, who is making a study of nectar concentration in northern Kentucky flowers. He has found that the humid weather and frequent showers have caused a considerable decrease in the percentage of sugar in the nectars of nearly all flowers. This undoubtedly is one of the causes of the small honey surplus in many areas. Since the weather turned dry in July, the concentration of nectar has increased although the weather is still very humid.

Michigan. Joe Mansfield, Ravenna, writes that he has studied plants of all kinds for a long time and has an experimental garden on his two-acre lot. He is interested in obtaining seeds of all kinds of plants which are of value to beekeeping. He sends me a list of all local honey plants which include dandelion, white and alsike clover, blackberry, catnip, and poplar. He lists one plant, elderberry, which it is generally agreed yields no nectar and if visited by bees at all, it is for pollen. Just why conspicuous flowers may be entirely devoid of nectar is somewhat of a mystery. In a number of such cases they produce so much pollen that honeybees visit them freely for this valuable product and as a result are thoroughly pollinated without the aid of nectar. The rose is a good example of a flower much visited by bees for pollen which produces no nectar.

Kentucky. While driving along the Ohio River near Warsaw, I stopped at an attractive apiary on the bank of the river. I found the owner, Bill Friend, who also runs a restaurant, much interested in beekeeping and honey plants. He reported that last year he obtained an unexpected large fall flow. To his surprise, supers that had been extracted and set back on his hives to be cleaned out by the bees, were filled solid with aster honey. Around his apiary there was growing a lot of chickweed (**Stel'aria media**) which he said his bees worked on warm days all this past winter. Along the bank of the river grew numerous bushes of false indigo (**Amorpha fruticosa**) which his bees also work heavily. On the hillside above and around his apiary there was

(Continued on page 571)

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A Talk to Beekeepers

With Special Reference to Beginners' Problems

M. J. Deyell

I got tired of seeing my "mug" on this page so left it out this time. One fellow at a recent meeting told me I'm not as good looking as my picture and he is right. That remark took me down a few pegs.—M. J. D.

The Other Fellow's Job May Look Easy

WE MAY SEE a fellow in a nicely equipped office sitting behind a desk in an upholstered swivel chair and say to ourselves, "Gee, I wouldn't mind having that fellow's job. I'll bet he has a cinch." If we could trade places with some of these fellows whom we think have it so easy, we might learn a thing or two.

While I'm not complaining about the difficulties connected with my work, I will say that it isn't all sunshine. Not long ago I clipped the following from one of the journals that came to my desk:

THE JOY OF BEING AN EDITOR

Getting out this magazine is no picnic.
If we print jokes, people say we are silly.
If we don't, they say we are too serious.
If we stick close to the office all day,
We ought to be around hunting material.
If we go out and try to hustle,
We ought to be on the job at the office.
If we don't print contributions,
We don't appreciate genius;
And if we do print them, the journal is filled with junk.
If we edit the other fellow's write-up, we're too critical;
If we don't, we're asleep.
If we clip things from other journals,
We're too lazy to write them ourselves.
If we don't, we are stuck on our own stuff.
Now, like as not, some guy will say
We swiped this from some magazine.
We did.

One thing I like about my work is that I have an opportunity to correspond with beekeepers all over the world and incidentally learn something about their problems in beekeeping.

I have made the remark that I am so interested in my work that I can hardly wait until the next day comes. When I tell some people this, they look me straight in the eye and wonder if I am actually in my right mind.

But joking aside, I do think that one has to become inoculated with the bee fever in order to be successful in beekeeping. During the years when I managed the Root Company apiaries, around 1000 colonies, I had men from this and foreign countries working for me. Some of them never became really interested in bees, and didn't get the bee fever. They did their work in sort of a perfunctory manner, and kept looking at their watches, and waiting for quitting time. Naturally, these fellows did not get much pleasure out of their work. Other fellows caught on to beekeeping quite readily and soon became intrigued with handling bees and observing bee behavior.

One reason handling bees is so interesting is that no two colonies are exactly alike and no one never knows what he will run into when checking through colonies in a yard.

We Should Visit Other Beekeepers

Whenever I take time off to visit other beekeepers I always learn something. I do think that one trouble with most of us is that when the active bee season comes on and the bees are piling in the honey, most of us are so busy checking colonies and putting on supers that we do not have time to visit other beekeepers and see how they do things.

If we could take time to visit beekeepers we could doubtless learn a good many shortcuts and better ways of handling bees that would reduce our

operating expenses and incidentally widen the margin of profit in beekeeping.

Readers Apparently Like Beekeeping Experiences

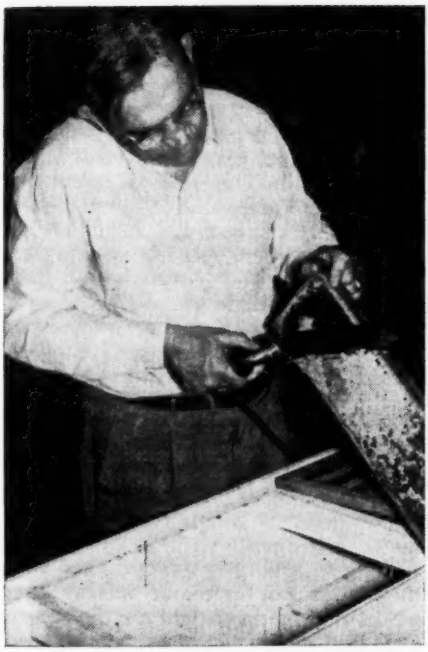
For some years I have taught a class of 11-year-olds in the Junior Department of our church school. I soon learned that kids won't listen to stuff that is as dry as dust but they do enjoy stories. They are always after me to tell them stories drawn from experiences I've had here and there and I try to have the stories emphasize some point I'm attempting to make.

Adults are overgrown youngsters and enjoy stories. During a recent bee meeting, one fellow said he couldn't forget the story I told a few years ago about the cross bees in one of my apiaries. I foolishly opened up some hives during a cool evening when most of the bees were at home. That is a bad thing to do. The bee yard was close to a railroad track. A gang of men were working a little distance down the track. The worst part of it was that when quitting time came and they were getting ready to go home, they had to pass rather close to where the bees were. Some of the bees that had been stirred up flew out to meet the men as they passed by. Needless to say, the men suddenly increased their speed and began waving their arms like a windmill. The language they used wouldn't sound good in Sunday School.

That little experience taught me a lesson, namely, to avoid opening up hives on a cool day unless it is absolutely necessary, when bees perhaps need food to prevent starvation.

The Dog That Had Some Sense

Some years ago I bought a dozen hives from a man who had them in an orchard quite near a dwelling house. When manipulating the hives, I was unusually careful to avoid getting the bees stirred up. For example, in the spring, at the beginning of fruit bloom, when it was necessary to put on wet supers, I didn't put them on during the day. If honey wasn't coming in well, the wet combs would get the bees stirred up. So I used to put supers on rather late in the evening so that the bees could clean up the wet combs during the night.



When shaving cappings off combs, some shave down like this fellow is doing. Others shave up. It doesn't seem to matter which way it is done, but we like to shave up.

I had told the man that the bees were quite gentle and that there was little danger of his family getting stung. Well, one evening I was manipulating some of the hives when the bees were not as gentle as they should have been. As I had a hive open, the man and his young daughter walked into the corner of the orchard accompanied by a dog. The man apparently had faith in what I had told him about the bees being gentle. However, I suggested that he should not come any closer. The dog approached one of the hives, then circled out around the apiary keeping a safe distance from the hives. It looked as though the dog had ventured too close to the bees, prior to that time, and perhaps had been stung. But no one was stung that evening although I stood there petrified. The bees were kept in that location for a couple of years. If I had not been unusually careful, I'm quite sure it would have been necessary to move the bees to another location.

Some Experiences This Past Season

Some of you will recall my mention-

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ing the four-and-a-half-year-old queen that was marked with bright-colored paint on her back. I do not know how long this mother and her daughter lived and worked together in the hive, but I do know that the old queen, while she was in her fifth year of service, became rather wobbly and looked as though she had about reached the end of her usefulness. I have not seen her recently but the daughter-queen is doing excellent work. There must be longevity in that strain of bees.

You will recall I raised the question as to what actually happens to old queens—do they die a natural death or do the bees eventually kill them? I did not receive any comments from our readers on this matter. It is my opinion, however, that such queens eventually die and the bees carry them out of the hives, although I never actually saw this happen.

We are told that worker bees wear themselves out in about six or seven weeks during the height of the season and that their wings become frayed, making it impossible for them to continue their work of carrying in nectar. It seems probable that some of the worker bees drop down on the ground before they reach the hive, while attempting to carry in their last load of nectar. If one would take time to observe, he might find these bees on the ground, some distance from the hive. I have never actually seen them but others may have seen them. Most of us are so busy that we do not take time to do much observing.

A Word about Selling Honey Locally

About 30 years ago a beekeeper who was going out of the business wanted to sell me nine hives of bees. I told him I had enough to do, to manage the Root Company Apiaries but he was so insistent about my taking the bees that I weakened, which meant that I was then in the bee business for myself.

The nine colonies averaged about 100 pounds each and then the question was, should I sell the honey to the Root Company or sell it from my home. I decided to sell it from my home so I put up a honey sign in front of the house. A little later I established four roadside stands out from Medina. One year, after I had increased the number of my hives to around 60 we had a good honey year and the bees produced around 6000 pounds of honey which was sold in five-pound pails and two-pound jars by the first of the year. I was kept busy extracting honey, putting it up, delivering it to the roadside stands, and keeping the people who operated the roadside stands happy.

At present I do not operate any roadside stands but sell only from my home. Customers bring their containers which I fill from a honey tank in the basement, weighing out the amount they want. I found that this is the simplest and most economical method of selling honey.

Things Learned from Honey Customers

In this issue of GLEANINGS Propolis Pete mentions some of his experiences with customers who come to his place for honey. I have had similar experiences. Some of the people who happen to know a little about bees and honey like to give the impression that they are exceptionally well-versed on the subjects. Even though I know that they are mistaken in some of their ideas, I try to give them the facts but at the same time avoid useless controversies.

Some want dark honey but the majority of the people in this area prefer light-colored honey. Some do not want honey that has been heated. I tell them that it is usually necessary to heat honey, at least to a moderate degree of temperature, in order to have it strain properly.

Manufactured Comb Honey

When I sold Airline honey put out by The A. I. Root Co., in Chicago for four or five winters, I would occasionally meet a grocer who would tell me that there was a person in his neighborhood who manufactured comb honey. I naturally expressed my surprise and would tell the grocer that I would like to meet the person who was doing the manufacturing. He would then say that a friend of his told him about it and when I actually tried to pin him down to facts, it was found that the story, a rumor, had no foundation.

Years ago this manufactured comb honey story was going the rounds when

the late A. I. Root offered an award of $1000.00 to anyone who could successfully manufacture comb honey. No one has ever won the reward.

Apiary Work During September

A variety of conditions prevail over the country during September. In some areas bees barely make a living. In other sections of the country where fall honey plants are abundant, bees store some surplus from goldenrod, heartsease, wild sunflower, aster, and other fall plants.

During the cool weather that sometimes occurs during this month, bees have a tendency to stock their brood chambers, before carrying nectar into the supers. The majority of beekeepers use a queen excluder above the double brood chamber in order to keep the queen down where she belongs.

Patsy Gaskin, granddaughter of Mr. T. C. Gaskin, is waitfor a customer. She is the daughter of Mr. and Mrs. Raf-mond Gaskin of West Columbia, S. C.

Most beekeepers use the food-chamber hive, which is a double-story hive, the upper story called the food chamber, which in reality becomes a brood chamber during the spring and summer months. It is quite important that the upper brood chamber, commonly called the food chamber, be quite well filled with honey, in addition to some honey in the lower chamber, for winter and early spring stores. In areas where there is little late summer or fall honey available, it seems to be an advantage to place the queen excluder above the lower chamber during the latter part of the season so that the bees will have this upper story filled with honey. In regions where there is a heavy fall flow of honey, the bees will usually drive the queen down into the lower chamber and fill this upper chamber with honey. During a honey flow of considerable duration, the bees will store honey in one or more supers placed above the queen excluder.

As a rule, there is very little danger of bees swarming during September, so it is possible to crowd the bees in the brood chamber in order to have them fill the combs with winter stores.

Unite Weak Co'onies in September

It is inadvisable to winter weak colonies; it seems preferable to unite such colonies in the fall. A weak colony may die before spring and before it dies, it has consumed a considerable amount of honey. Why not save the honey the weak colony would use during the winter and unite all of the weak colonies in order to make good populous colonies to go into winter quarters.

The object in uniting under-strength co'onies in September is that bees may have an opportunity before cold weather sets in to form a winter brood-nest.

Don't Over-manipulate Hives in the Fall

Some beginners in their zeal to make the bees comfortable, manipulate the hives too often and perhaps exchange the position of combs in the brood chamber. For example, some dark combs that have been used for brood rearing may be shifted from the center to the outside of the brood chamber. These dark combs may contain some

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A $10,000 Rotary Club Speech

GEORGE H. REA, Reynoldsville, Pa.

THE TELEPHONE CALL was from County Agricultural Agent Franklin Yates at Shelbyville, Tennessee, inviting me to speak to his rotary Club at noon and to attend a meeting of the Bedford County beekeepers on Thursday, December 7, 1944. Regardless of the rainy day, 26 interested beekeepers attended morning and afternoon sessions and organized the Bedford County Beekeepers' Association. Progressive plans were made for an educational program in beekeeping for the county. In common with beekeeping needs over the entire state of Tennessee, the control of American foulbrood was of top interest. Freely discussed, also, was the need for educational apiary demonstrations on transferring bees from box hives into modern frame hives, an essential in American foulbrood control; requeening with improved stock; better wintering of the bees; swarm control; and, in general, methods of management for honey production and marketing. Of special interest, also, was the use of honeybees for the pollination of orchards and the many acres of hairy vetch and crimson clover grown for seed production in that area of the state.

The high spot for beekeepers that day was at the meeting of the Shelbyville Rotary Club in the Country Club Building. Interest was keen and was shown on the tense faces of the men as facts about the life and habits of honeybees were unfolded to them. The second phase of the discussion in which they were told of the important role of the honeybee in agriculture and the use of bees for pollination in Tennessee, drew many questions from the men. They knew about the importance of fruit growing and of vetch and crimson clover seed production, but were astonished at the great increase of the crops by the use of honeybees in the orchards and fields. Discussed last of all was the need for educational and bee inspection facilities and the beekeepers' request for $10,000.00 to be presented soon to the State Legislature for the purpose of increasing the work in this needy field.

After adjournment, several of the men came up to obtain more information about the proposed request for funds. Among them was one who, during the meeting sat directly in front of me at the next table. He had given undivided attention to all that was said and now, disregarding many who pressed around him to shake hands, he pushed his way forward, held out his hand and introduced himself. He was Prentice Cooper, Governor of Tennessee. He expressed his pleasure and interest in what I had said and wanted to confer with me about the beekeepers' request. Now that he had the needed information he would return to Nashville to help secure the necessary funds.

This was glad tidings from the right source. Several prominent beekeepers had been working on the item for the annual budget, but for the most part the legislators gave them little encouragement because of the many older and established agricultural projects requesting funds.

It is a matter of record that Governor Cooper kept his word; and, by his powerful influence and the good work done by the beekeepers, the entire $10,000 was appropriated by the Legislature that winter.

Of historical importance in Tennessee beekeeping was the keen interest and untiring efforts of Commissioner of Agriculture, C. C. Flanery and State Entomologist, Gordon M. Bentley, in trying to get the beekeepers to do something for their own industry which in

turn would benefit agriculture as a whole. Regardless of beekeeping teaching by Bentley at the University of Tennessee and the efforts of some bee inspectors, the industry was inadequately organized and poorly financed. Thousands of colonies were still in box hives and log gums that needed to be transferred into modern equipment. American foulbrood had destroyed whole apiaries and had ravaged beekeeping all over the state. While Tennessee was in former years one of the leading honey-producing states in this country, it had fallen far behind many other states where modern beekeeping had progressed rapidly. In Tennessee many commercial beekeepers gave up in despair, and bees on the farms greatly decreased. This deplorable decadence in beekeeping had been going on for several years.

On December 8, 1944, the day after the important events at Shelbyville, a called meeting of the beekeepers of Tennessee convened in Hotel James Robertson, Nashville, to reorganize and activate the almost-defunct Tennessee Beekeepers' Association. It used to be one of the outstanding beekeepers' associations, but for the past few years it had lagged greatly in interest. Some former leading members of the association, when consulted about holding the meeting, predicted that few would come and that the meeting might result in failure to do anything constructive. However, 52 interested beekeepers came from various parts of the state. The important speakers were Commissioner of Agriculture, C. C. Flanery, John M. Amos of State College, Pennsylvania, and Entomologist Gordon M. Bentley of Knoxville. It was my privilege to explain the beekeeping situation and the necessity for reorganizing the association and adopting a new and constructive program. Armstrong Allen of Nashville was elected president, and this writer, secretary-treasurer. Here began a renewed and enthusiastic interest in beekeeping; and, because of continued state funds and the wise planning and management of the beekeeping program, the cooperation of the beekeepers with those in authority, and a great increase in honey-producing plants on the farms, the industry has made notable gains in the past few years.

Each year in the annual report of the Tennessee Department of Agriculture, the State Apiarist records the advancement of the beekeeping industry. Many instructive leaflets on beekeeping have been issued; and, in 1952, State Apiarist Leslie H. Little and L. D. Wallace, Department Editor, published a very helpful and popular bulletin, A BEE BOOK FOR BEE-GINNERS.

During World War II, by request of the National Resources Planning Board, I was on their National Roster of Scientific and Specialized Personnel. Having retired from Cornell University, I was ready to go where and when needed. Several states had requested beekeeping service, and I decided to accept an invitation from Commissioner of Agriculture Flanery and Entomologist Bentley to see what could be done for Tennessee beekeeping. After serving exactly one year, April 1, 1944, to April 1, 1945, John M. Amos of State College, Pennsylvania, was secured on permanent appointment. He served efficiently until the summer of 1949 when he accepted a position in the Entomology Department at Virginia Polytechnic Institute at Blacksburg. He was succeeded by Mr. Leslie H. Little in Tennessee.

"Hand me the hive tool!"

XUM

Asked & Answered

Moving Bees to New Location

Q. I have two hives of bees about eight feet off the line of my neighbors and I would like to move them about 30 feet back into the center of my orchard. What is the best way and how far each day can I move them?

A. Our suggestion is that you pick the hives up late some evening after all of the field bees have come in, then carry the hives carefully to the new location. You should place some brush or sticks loosely over the hive entrances, so that the bees when they fly out of the hives the following morning may discover these objects and thus know that they are in a new location. Some of the bees will return to the old location and fly around looking for their hives. However, if you leave nothing that looks like a hive, on the old location, these bees, after flying around a bit, will eventually return to the new location.

Introducing Queens at the Entrance

Q. I have been introducing queens by taking out the perforated tin and inserting a stick, then pushing the cage into the entrance with the wire side up. Is this method new? If not, does it meet with the approval of larger beekeepers?

A. This plan of introducing queens was used to a large extent by the late Dr. Miller. It works well when introducing queens into full colonies when the weather is warm and has the advantage of making it unnecessary to open the hive to find when the queen has been released. The method deserves a wider use by extensive beekeepers than it has at present.

Wintering Two Queens in One Hive

Q. Is there any way of wintering two queens in one colony or in one hive?

A. Two or more queens can be wintered in the same hive but not very well in the same colony. The hive can be divided by a tight-fitting division board and provided with a separate entrance for each division so that two or more nuclei can be wintered in one hive. Queen breeders sometimes winter surplus queens in this way to fill early orders in the spring. It will be well to have these small colonies strong enough to cover at least three combs. A division board can be inserted in the middle of the hive in the fall, dividing the brood and bees about equally on each side, and the queenless part supplied with a queen or a ripe queen cell, thus making two colonies. Such colonies should winter well if supplied with sufficient stores, but will need more room early next spring. When the bees rear a young queen to take the place of the old one, frequently they permit both the old one and the young queens to work together for some time after the young queen begins to lay, but usually the old queen disappears after the honey flow, so it is not often that the two queens are wintered. It is possible under certain conditions even to have two or more young laying queens in one colony during the honey flow, but usually all but one disappear after the close of the honey flow.

Boiled Honey for Winter Stores

Q. Is it safe to feed for winter honey that has been boiled and has a cooked taste?

A. No. Honey that has been boiled is not fit for winter stores in any locality. This honey should be saved to feed to the bees in the spring for spring brood rearing. Nothing but granulated sugar syrup or the very best honey should be given to the bees for winter stores.

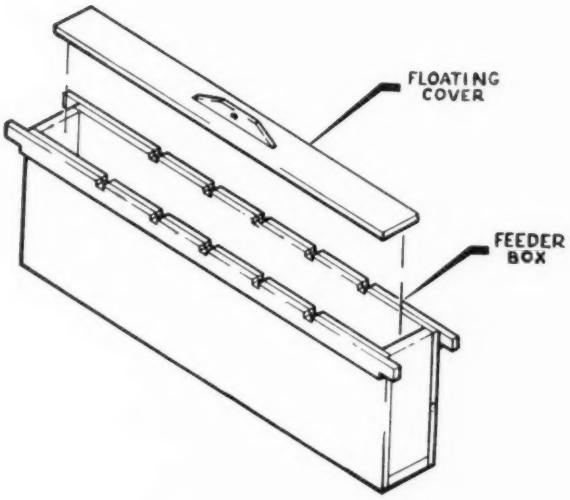
How to Keep Extra Queens

Question: When one has a few extra queens, how may he keep them?

Answer: It sometimes happens that during the summer the beekeeper has a number of extra queens and no place to keep them. In such a case a few queens may be kept in cages placed immediately over the cluster of bees in a strong colony, where they will be taken care of for a week or 10 days.

Our Cover Photo

MOST BEEKEEPERS know comparatively little about the anatomy of a honeybee. Such knowledge may not be necessary to secure a good crop of honey. Some beekeepers may not know that a bee has five eyes. This young fellow is determined to learn more about the parts of a bee.—Photo by G. A. Pauli, Pueblo, Colo.



Apple-Box Feeders

LEW W. WHITE, Shawnee, Okla.

FOR FEEDING sugar sirup I have tried just about every kind of feeder that I have seen or heard about. But I did not find one that was fairly handy, and that my bees seemed to really like, until I designed and built my apple-box feeders, like the drawing shows. These home-made feeders have some drawbacks, but I have found them the most satisfactory of any I have tried. Any beekeeper who is handy with tools can make them. If he can not find apple boxes, he might use glass crates, or some other kind of thin clear boards—but do not use gum boards as they will warp and spoil the whole layout.

Slides are made from ⅞ inch thick apple-box boards, and are 5½ inches wide, and 17 inches long. Ends are 2 inches wide, and 5 inches long, and are made from apple-box end boards. Bottoms are of standard inch thick pine, 2 inches wide, and 17½ inches long. Hanger bars are ½ x 1 x 19 inches, with five ⅜-inch entrance slots on top.

This makes a sirup container 2 inches wide, 4½ inches deep, and 16 inches long, inside, which I hang in a super in place of three honey frames. I use a small paint brush for covering nails and for calking cracks and connections with hot beeswax. I put two quarts of sirup in each container at a time, my bees seem to like not having them full.

The floating cover is made from ⅞ inch thick pine, and is 1¾ wide and 15⅝ long, with a ⅜ inch square cleat nailed in the center of the top for lifting out. To make it still easier to lift out the floating cover, I make a ⅞ hole in the cleat so that it can be easily hooked with a wire.

The easiest way to assemble this feeder is: —

1. Nail hanger bar on side board, top edges flush. I use one inch frame nails for this, taking care not to nail closer than 1½ inches from end of side board.

2. Make five entrance slots in the top of this assembly.

3. Nail hanger bar and side assembly to the end pieces, flush at the top.

4. Nail on the bottom board, after notching the ends so that the board will fit flush with the side board. In this way the bottom can be nailed in from two directions.

XUM

Intelligent Apiary Management

E. S. MILLER, Valparaiso, Ind.

IN THE LATITUDE of Northern Indiana you can winter bees without loss on their summer stands and at the same time save at least 50 pounds of honey per colony. If you don't believe it, try this:

Before the beginning of the fall flow in early August, unite all weaker colonies with strong ones, reducing by half your total number of colonies.

Bees reared from eggs laid after the first week in August, are consumers, not producers of honey.

First see that the queen in every stronger colony is in the lower story below a queen excluder.

The second story should contain ten good combs, preferably filled with honey.

To unite, place over this second story a sheet of newspaper and a second excluder.

With the bottom board of the weaker colony removed, set the hive on top of the stronger colony. In a few days when the bees have become acquainted, shake bees and queen from the upper colony and let them run in below. The stronger queen will survive. Remove the upper excluder and replace combs.

In October, after the first hard frost, remove everything above the second story.

Reserve an ample supply of combs of honey for spring feeding.

Do not try to winter in three-story hives, but be sure that every colony is supplied with at least 60 pounds of stores. This means 10 combs completely filled, plus what is below.

On the approach of cold weather, reduce entrances to ⅜ x 3 inches. Provide an upper exit by way of a notched inner cover. Remove all excluders. Use no outer packing but wrap with black building paper.

Colonies thus provided for will begin brood-rearing early, often in the first week of February, and before mid-April will be completely filled with young bees. They should then be divided.

To divide, proceed as follows: Remove the second story of the overwintered colony, to a bottom board near by. Over the parent colony place a queen excluder and a hive body containing 10 full sheets of foundation. This is to become a food chamber to be left on the hive during the next 12 months.

Give to the parent colony the old queen and at least three-fourths of the mature bees.

Give to the new colony most of the brood and a young laying queen. Keep queens in the lower stories.

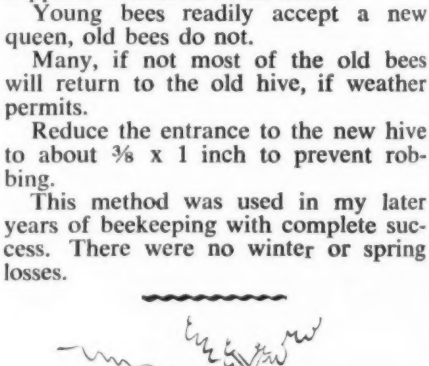
See that both colonies are plentifully supplied with food at all times.

Young bees readily accept a new queen, old bees do not.

Many, if not most of the old bees will return to the old hive, if weather permits.

Reduce the entrance to the new hive to about ⅜ x 1 inch to prevent robbing.

This method was used in my later years of beekeeping with complete success. There were no winter or spring losses.



"Oh, no! You found AFB again?"

Introducing the Queen

by LEONARD HASEMAN, University of Missouri

IT IS a relatively simple matter to introduce a queen and yet even experienced beekeepers often find it difficult to find a small active black queen in a colony to be requeened. When a colony is to be requeened the first thing to do is to find the old queen and pull her head off.

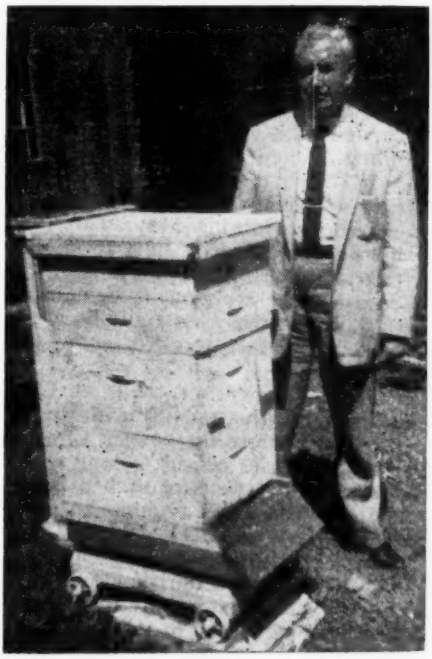
To find the queen use but little smoke and with least disturbance remove and carefully examine two or three of the central combs first. She is usually on one of these. If she is not located, remove and quickly but carefully examine each of the remaining combs. In case she is not located on the combs, look for her among bees collected on the side or in the bottom of the hive.

A small, nervous, black queen readily leaves the combs and when moving about among the workers she is not easily seen. If repeated examination fails to locate her, put a queen excluder between the bottom board and brood chamber and shake the bees in front of the hive. The bees will pass through the queen excluder while she ordinarily cannot and will be trapped there where an hour or so later she can be found and kil'ed.

After the queen has been killed the new queen or a queen cell may be introduced in the colony. A queen cell or a recently emerged virgin queen will usually be accepted without protest, but a new fertile queen is likely to be killed. She should be introduced in a cage from which she cannot be released for two or three days. The regular mailing cages are used for this purpose and on each of these is attached brief directions as to care and introduction of the queen. Remove the cardboard strip and cork which close the escape hole in the end of the mailing cage containing the candy and either lay the cage screen side down over one of the spaces between the top bars in the hive, or suspend it between two of the combs in the brood chamber. In about 48 hours, as a rule, the bees will eat out the candy in the end of the cage and release the new queen and accept her.

If a home-reared queen is to be introduced, she may be placed in a small roll of screen wire with one end folded over to close it and the other plugged with a little beeswax or fresh comb and this placed in the hive the same as described above. It is not a good practice to use short cuts in the introduction of valuable queens.

A Visitor from France



MR. P. HORGUELIN of Chalons Marne, France, paid us a visit recently. He also visited commercial beekeepers, bee supply manufacturing plants, bee-culture laboratories, and honey-packing plants in the U.S.A. and Canada. Mr. Horguelin is a large commercial honey producer of France and Vice president of the National Union of French beekeepers. This association publishes the "Revue Francaise d' Apiculture" of which Mr. Horguelin is the Editor.

USDA States Gypsy-Moth Spray No Threat to Honeybees

EXTENSIVE FIELD TESTS in recent years have proved that DDT does little harm to honeybees in the concentration being used for the gypsy-moth spray program now under way in New York, New Jersey, and Pennsylvania, according to the U. S. Department of Agriculture.

James I. Hambleton, USDA Bee Research Specialist and a national authority on bee culture, said beekeepers often become alarmed in advance of a spray program such as the gypsy-moth operation, but their fears in the past have proved groundless. In general, only bees in flight are actually exposed to the DDT spray and no insecticide is carried back to the hive and fed to the brood.

In 1954, research scientists at Cornell University conducted large-scale experiments during May, with follow-up work in June or July, to check effect of DDT gypsy-moth sprays on bees. These experiments demonstrated that little loss of bees could be attributed to DDT as a result of aerial spraying.

A conference was held at Cornell University, Ithaca, N. Y., in March of this year, before the current spray program began, to consider along with the many other aspects of such a program the recent research findings on possible toxic effects of DDT spray to honeybees. Scientists present included Dr. Maurice C. Bond, director of the New York State Extension Service, Dr. Charles Palm, head of the Cornell University Department of Entomology, and Dr. E. J. Dyce, Cornell professor of apiculture. The conference agreed that the proposed DDT spraying against the gypsy moth constituted no serious threat to bees. However, as an extra precaution, it was recommended that spray schedules be arranged so that orchard areas would not be sprayed while the fruit trees were in bloom. The current spray program has followed this recommendation.

The gypsy-moth spray program is aimed at eradication of leaf-eating gypsy-moth caterpillars from almost three million acres, much of which is heavily forested land in New York State.

The program calls for a single aerial application of one pound of DDT dissolved in one gallon of light oil per acre. At this rate of dispersal, a plot of land measuring 50 feet on a side (2,500 sq. ft.) receives less than one ounce of DDT.—U.S.D.A. Dept. of Agriculture, Washington, D. C., May, 1957.

A Beekeeper from Chile, S. A., Visits Gleanings

Luis Susacta

Luis Susacta, Santiago, Chile, a commercial beekeeper with 600 colonies paid us a visit recently. He is spending some time with beekeepers in this country and Canada, to acquire information on our methods of producing and marketing honey. At the time he was here, in July, bees in his country were in a state of quiescence during the winter months.

Ohio State Summer Meeting

THIS MEETING held in the Columbus Youth Building, July 27 and 28, was one of the best ever with close to 200 in attendance.

Tom Keese, Vice president, after a few appropriate remarks got the meeting off to a good start by calling on Harry Vandenburg, President, who gave some words of welcome.

Dr. W. E. Dunham, as per usual, gave an excellent talk to beginner beekeepers, emphasizing the importance of good bees, good equipment, and a knowledge of bee behavior in order to employ intelligent apiary management.

George Rehman talked on Group Insurance for beekeepers, which by the way, is now available. It has some distinct advantages in that the coverage protects beekeepers from different types of losses.

Harry Vandenberg in an inspiring talk entitled "Youth and the Future of Our Industry" brought out the importance of helping young people to be successful in beekeeping. Successful beekeepers should take time out to demonstrate to beginners just how a hive of bees should be manipulated. Beekeepers should be willing to give talks to schools, 4-H clubs and scout troops. If we fail to sell beekeeping to the youth, our industry is doomed because there will be no beekeepers to take the place of older beekeepers who are passing on.

Chas. A. Reese headed a panel of five so-called experts on beekeeping and the idea was for people in the audience to stump these experts with questions. It was a lot of fun because at times the experts were actually stumped, which goes to show that no one knows all about bees.

H. R. Swisher, Sec.-Treas. of the Association called attention to the coming **American Beekeepers' Federation Convention** to be held in Columbus, Ohio, the last week of next January. There is an immense amount of work to be done planning this meeting. Our Ohio Association will be the host and it is hoped that those who are asked to help may respond, in order to make the coming National meeting the best ever held.

The banquet toastmastered by Chas. A. Reese was a success. Two distinguished guests and speakers appeared on the program—W. B. Wood, Director of Agricultural Extension Service and Jas. R. Hay, Director of Agriculture, Ohio State University. Both speakers mentioned the important part honeybees play in the pollination of farm crops.

Don Cooke brought us an enlightening talk on "Beekeeping Problems in Southwestern Ohio", which made us aware of the importance of acquiring more information regarding soils and geological areas of our state. To get crops of honey, beekeepers must be where the honey is.

John Buchanan. Sales manager for The A. I. Root Co., had the distinct honor of crowning the Ohio Honey Queen, Alice Fair, Avon, Ohio. Bertha Delp, Kensington, was in second place.

A Problem Solved

ROBERT J. WYNDHAM

CLEANING MY six-frame extractor had always been a minor problem. As I keep it covered with a canvas whenever not in use, no dirt or dust gathers in it. But it is inevitable that a certain amount of granulated honey accumulates on walls and bottom. These granulated remnants would speed up the granulation of the new honey.

It is an unpleasant job to clean it with hot water, which also involves the risk of rinsing away the lubrication out of the ballbearing at the bottom. For beekeepers who do not have a steam generator here is a simple pleasant method which I am using to clean my extractor successfully.

I bought an infrared bulb and mounted it in a snap-on holder. It is necessary to use a porcelain socket, as the lamp gets very hot. Then I snap the gadget on the shaft in the center and let the lamp do the job, revolving the shaft from time to time by pushing the baskets a little. I prop up the back of the extractor with wedges to give the bottom more slant, and the liquified honey drains effortless.

Just News

Tennessee Beekeepers' Association, Inc., will hold its annual meeting at the Royal Hotel in Clarksville, Tennessee, on October 18 and 19. Montgomery County Beekeepers' Association will be host to the State meeting. A good program is being prepared and more details will be supplied later. — L. H. Little, State Apiarist.

The next meeting of the **Norfolk County Association** will be held Sunday, September 8, 1957, at 2 p.m., at the home of Mr. and Mrs. Horace Osborne, Franklin, Mass. A report on the State Federation held at Waltham Field Station, August 17, 1957, will be given at this time — also a report on the conference of the Eastern Apicultural Society he'd at Pennsylvania State University will be given. Everyone invited. Please come and bring your lunch, chairs, etc. — Edith L. Colpitts, Cor. Sec'y.

The annual meeting of the **Georgia State Beekeepers' Association** will be held October 7-8 in Waycross at the National Guard Armory, located on Garlington Ave., just off the Waycross & Tifton Highway. An interesting program is being planned and further details and program schedule will be announced in the October issue.—Warren Wilbanks, Sec'y.

Worcester County Beekeepers' Association will hold its regular monthly meeting on September 21, 1957, at the F. Harold Daniels School of Forrestry and Conservation, located on Route 122A and approximately 15 miles west of Rutland Center. This will be the highlight of their outdoor meetings. There will be a ticket drawing for the grand prize namely the "Club Hive" which every member wishes for and hopes to get. The Chub Hive has done very well since early spring and is well stacked with bees and honey. All members are urged to bring a basket lunch. Coffee as usual will be served.—Peter S. Stapor, Publicity.

The **Midwestern Beekeepers' Association** will meet at the home of Mr. and Mrs. Walter Hill, 8440 Jarboe, Kansas City, Missouri, at 2:30 P.M., Sunday, September 8, 1957. Among the subjects to be discussed will be fall requeening, the fall nectar flow and a discussion of fall nectar-bearing flowers. Refreshments served after the meeting. Everyone welcome. — J. F. Maher, Sec.

Walter Leininger, Delphos, Ohio, son of the late Fred Leininger, a long time commercial beekeeper, died April 24.

The next meeting of the **Eastern Missouri Beekeepers' Association** will be held at the Clayton Courthouse, Clayton, Missouri, on Tuesday, September 3, at 7:30 P.M. There will be a panel discussion and a honey recipe exchange.—Arrena S. Gerlach, Secretary-Treasurer.

Southern States Beekeepers' Federation
(Southern Conference)

Convention: George Washington Hotel, Winchester, Virginia
October 2, 3, 4 - 1957

Assemble Oct. 2, 9:00 A.M. Scenic Tours - Caverns, Sky Line Drive, historical spots; tour through the great apple orchards during harvest time.....In the beautiful Shenandoah Valley. . . . . .

7:00 P.M. V.P.I. will show movies
Committee Meetings
Research, poison menace

Thursday, October 3

8:30 A.M. Registration
9:00 A.M. Call to order
— President W. A. Stephen
Invocation - Announcements
9:20 A.M. Introduction of guest speaker — Mayor Smalts
9:30 A.M. Welcome Address
— Senator Harry F. Byrd, Jr.
9:45 A.M. Response
— W. A. Stephen
10:00 A.M. Nature uses the honeybee for perfect pollination — Dr. J. I. Hambleton

10:30 A.M. Package Bees and Queens
Panel: Moderated by H. York, Jr.
11:30 A.M. Installation of Packages and Queens. Panel: Moderated by Dr. G. H. Cale (Ed., A.B.J.)
11:30 A.M. Business Session
Committee Appointments
12:00 P.M. Lunch
1:15 P.M. Call to order
Honey Research — Mrs. Harriett Grace (A.H.I.)
1:45 P.M. Royal Jelly Markets — R. B. Willson
2:15 P.M. The Poisoning Menace
Panel: H. L. Maxwell, Moderator
3:00 P.M. Label Judging
3:30 P.M. Honey Auction
7:00 P.M. Banquet
— Harold J. Clay, Toastmaster

Thursday, October 3

Beginners and Amateurs SPECIAL

1:45 P.M. The Beginner and His Bees
W. W. Clarke, Jr. (Penn St. Univ.)
2:30 P.M. So, You Want to Be a Beekeeper — Jack Deyell (Editor of Gleanings in Bee Culture)
3:15 P.M. Better Honey Packs
— Leslie Little, Ext. Api., Tenn.

Friday, October 4

9:00 A.M. Invocation
Roll Call by States
9:30 A.M. Our Lines of Progress
—S. Joaquin Watkins, Pres. ABF
10:00 A.M. Florida Beekeeping
— John D. Haynie
10:30 A.M. Better Queens through Se-

(Continued on page 569)

W. J. NOLAN RETIRES

Field Crop Insects & Bee Culture Research Branch, August 9, 1957

MR. W. J. NOLAN, assistant head of bee culture work in the United States Department of Agriculture, voluntarily retired June 30. Mr. Nolan received appointment to the post when Dr. E. F. Phillips left the Department of Agriculture to accept the chairmanship of apiculture at Cornell University in 1924. The beekeeping industry has thus lost the immediate services of one of its best qualified and informed workers.

Many milestones were erected by Mr. Nolan in the course of his government career. Perhaps outstanding was his work in determining accurately the capacity of queens to lay and the character of buildup of package bees. Reference is still frequently made by scientific workers to his painstaking work.

It will be recalled also that Mr. Nolan was one of the country's pioneers in genetic studies with bees and the employment of instrumental insemination of queen bees. Shortly after the late Dr. Lloyd Watson demonstrated for the first time at Cornell University the successful instrumental insemination of queens, he again demonstrated his technique at the bee culture laboratory then located at Somerset, Maryland. Mr. Nolan, who was already well-versed in genetics, immediately applied the technique in his own work. He made a number of improvements over the Watson instruments and technique and inseminated hundreds of queens during the course of his studies. The Cordovan bee, a strain of Italian blood, which contains no black markings is a product of Mr. Nolan's skill and patience. The Cordovan bee is one of the most beautiful honeybees in existence. While it is not commercially available, it is being used by bee geneticists in current breeding work because of its distinct coloration.

Mr. Nolan was an officer in the American Expeditionary Forces in the first World War. At the close of the war he maintained his interest in military affairs by staying active in the reserves. He was called to duty again during the second World War where he saw active services in Italy and North Africa. He now holds the rank of Major in the Reserve Corps. While we in federal beekeeping work will greatly miss Mr. Nolan's friendship and guidance, there is some consolation in the realization that he left the service in good health and spirits. We hope also that we have not heard the last of Mr. Nolan as a beekeeping specialist.

XUM

Buy and Sell

Only responsible advertisers and honest advertisements will be admitted to these columns. References required from new advertisers not known to us. Rate: 18c per counted word, each insertion. Each initial, each word in names and addresses, the shortest word such as "a" and the longest word possible for the advertiser to use, as well as any number (regardless of how many figures in it), count as one word. Copy should be in by the 10th of the month, preceding publication.

HONEY FOR SALE

WE BUY AND SELL all varieties of honey. Any quantity. Write us for best prices obtainable. The Hubbard Apiaries, Onsted, Michigan.

IOWA honey, one can or truck loads. Russell D. Smalley, Beaver, Iowa.

CLOVER extracted honey in sixties. Abram Brubaker, Rt. 2, Lancaster, Pa.

ORANGE HONEY, also amber in new sixties. Peter W. Sowinski, Fort Pierce, Florida.

MICHIGAN'S finest raspberry, basswood, clover comb honey, in 4 x 5 window cartoned cellophane wrapped sections. Extra fancy, $8.00; Fancy, $7.00; No. 1, $6.00; No. 2, $5.00 case. E. Z. Quick Way B Farms, Boyne Falls, Michigan.

CLOVER HONEY—Truck or carload, new 60's 16c, my Honey House. E. Gamble, Adams, New York. Telephone 5-2577.

NEW CROP white clover honey for sale. Reuben David, Monona, Iowa.

FOR SALE—Pure tupelo and wild flower in 60's. Honey candy. En-R-G Foods, Inc., P. O. Box 232, Lancaster, Pa.

HONEY AND WAX WANTED

BEEKEEPERS TAKE NOTICE—We can not guarantee honey buyers' financial responsibility, and advise all beekeepers to sell for cash only or on C.O.D. terms except where the buyer has thoroughly established his credit with the seller.

WANTED—All grades of extracted honey. Send sample and price. Deer Creek Honey Farms, London, Ohio.

CASH FOR BEESWAX. Write as to quantity and we will quote price. Muench-Kreuzer Candle Co., Inc., Syracuse, N. Y.

WANTED—White extracted or comb honey. Send sample. Millersport Honey Co., Millersport, Ohio.

BEST CASH DEAL for your honey (any grade) and beeswax. Alexander Company, 819 Reynolds Road, Toledo, Ohio.

HONEY WANTED, all grades in 60's. Mail samples, advise quantity, best price. M. R. Cary Corp., 219 Washington Square, Syracuse 8, New York.

BEESWAX WANTED—Highest prices paid in cash or trade for bee supplies. The A. I. Root Company, Medina, Ohio; Council Bluffs, Iowa; San Antonio, Texas.

WRITE FOR SHIPPING TAGS and quotations on rendered beeswax. We buy from one pound up and if you have over 25 pounds let us work it into foundation for you at a 25 per cent saving. Walter T. Kelley Co., Clarkson, Kentucky.

WANTED: Light amber clover, fall flowers, buckwheat, and white clover. Send sample and lowest price. Cloverdale Honey Co., Fredonia, New York.

WANTED—Honey in 60 pound cans, also beeswax, any quantity. L. E. Allen, Tipton, Mich.

CASH for Amber and Buckwheat Honey. Best cash price for wax. Hubbard, Onsted, Michigan.

WANTED—Buckwheat and light amber honey. Eastern Food Products, 421 Bedford Ave., Brooklyn, N. Y.

WAX WORKERS render and buy beeswax, manufacture plain and WAVYWIRED foundation. Prices and shipping tags on request. WAX WORKERS, Ithaca, N. Y.

WANTED, chunk comb and extracted honey. Mail sample and price. Stoller Honey Farms, Latty, Ohio.

WANTED—Honey small or large lots. We pay cash. Tideswell Supply Co., 2711 No. 63rd St., Omaha 4, Nebraska.

WANTED — Comb and extracted honey. State best price. W. Klabuhn, Norwalk, R.F.D. 2, Ohio.

WANTED—Top quality chunk and extracted honey. Send sample and your price. Delivered to Miller Honey Products, 3846, Orders Road, Grove City, Ohio.

FOR SALE

WRITE FOR CATALOG—Quality Bee Supplies at factory prices. Prompt shipment. Satisfaction guaranteed. The Hubbard Apiaries, Manufacturers of Beekeepers' Supplies and Comb Foundation. Onsted, Michigan.

THE BIGGEST BEE SUPPLY Catalog published (64 pages) free for the asking. Listing many items not found in other catalogs. No agents—buy direct and save 20%. WALTER T. KELLEY CO., CLARKSON, KENTUCKY.

FOR SALE—New heart cypress 10-frame bottom boards. KD, 10 or more, $1.00 each; 50 or more, 90 cents each; 100 or more, 85 cents each. One nailed up sample postpaid, $1.25. Fred L. Poole, Elizabethtown, Rt. 2, Box 67, No. Car.

QUEENBEE PAINTING OUTFITS, $1.50 postpaid. Southwick Apiaries, Waban, Mass.

FOR SALE—3000 60-lb. good used cans, 25 cents each. You come and get them. Will not ship at above price. Honeymoon Products Co., 39 East Henry Street, River Rouge 18, Mich.

BEE EQUIPMENT—Entire lot $500.00, about one-third price today. Some never used. All made up and painted. Ellenwood Orchards, Carpenter, O.

FIVE GALLON good clean used cans, also paper cases. L. D. Taylor, Harlan, Iowa.

BEES AND QUEENS FOR SALE

We use all possible care in accepting advertisemen's but we cannot be held responsible in case disease occurs among bees sold or if dissatisfaction occurs. We suggest that prospective buyers ask for certificate of inspection as a matter of precaution.

CARNIOLAN and CAUCASIAN Bees for 1957. Booking queens. Each, $1.00; 2-pound bees with queen, $4.00. 3-pound bees with queen, $5.00. Lewis & Tillery Bee Co., Rt. 3, Box 251, Greenville, Alabama.

IT PAYS TO REQUEEN. Old queens in your hives cost a lot through lost production. Young queens pay for themselves and give a good profit besides. One super of honey difference in favor of the young queen is not too much to expect in most any location. We can furnish the best select young Italian laying queens from now until Oct. at $1.00 each; 10, $9.00; 25, $20.00. Prompt shipment. No disease. Air Mail postpaid. H. C. Short, Fitzpatrick, Ala.

FOR SALE—20 colonies of bees; sale approved by State Inspector. Herbert R. Castle, Rome, Ashtabula Co., Ohio.

450 colonies bees. No disease. Extra equipment. Large fire-proof shop. Good clover locations. Wilburt A. Walker, Port Austin, Michigan.

PRODUCTIVE ITALIAN QUEENS — $1.00 each. Ten up, 90 cents. Shirl Baker, Rodney, Michigan.

ITALIAN QUEENS, 70c each; 6, $4.00. G. H. Merrill, 302 Beatrice, Greenville, S. C.

FOR SALE—Eleven hives in Wyandot County, Ohio, five miles north of Upper Sandusky, off U. S. Route 23. Luther Still, Rt. 4, phone 615W1.

FOR SALE—480 colonies bees with 1957 honey crop on hive. One 45-frame simplicity Root extractor; two 1600-pound capacity storage tanks; one ¾-ton pickup truck. Arlo A. Doenges, R. 6, Defiance, Ohio.

WANTED

WANTED—12-frame radial extractor. H. Booth, Charlottesville, Va.

HELP WANTED

TWO QUEEN-BREEDERS wanted. Salary good for capable sober man. O. K. Anderson & Sons, Coffee Springs, Ala.

POSITION WANTED

Experienced Canadian beekeeper wishes a position with a beekeeper in Florida from Nov. 1 to April 1. Wallace Ross, Seaforth, Ont. Canada.

SEEDS

HONEY PLANTS our specialty. Catalog on request. Pellett Gardens, Atlantic, Iowa.

MISCELLANEOUS

FOR SALE—ROYAL JELLY and The Little Queen Royal Jelly Extractor. Royal Jelly Enterprises, 1017 Los Carneros Avenue, Napa, California.

ROYAL JELLY in capsules. Box of 30 with 25 milligrams royal jelly, $2.50 to beekeepers, retails for $5.00. Box of 30 capsules with 50 milligrams, royal jelly, $4.35 to beekeepers, retails for $8.50; 25 milligram in bulk of 1000 capsules, $75.00. 50 milligram in bulk of 1000 capsules, $135.00. Postage paid in the U. S. Prairie View Honey Co., 12303 12th St., Detroit 6, Mich.

HONEY WANTED
Carloads and less than carloads. Mail sample and best prices in all grades.
C. W. AEPPLER COMPANY
Oconomowoc, Wisconsin

THREE-BAND ITALIANS
Quality and service guaranteed to please.
W. E. PLANT
HATTIESBURG, MISS.

ROYAL JELLY
$16.00 oz. with direction for mixing and taking.
JACKSON APIARIES
Box 58 Funston, Ga.

QUEENS
Italians Only
Nice large queens, each 70c
For air mail, add 5c each.
Send us your order of 1 or 1000.
Producer of Royal Jelly.
MITCHELL'S APIARIES
BUNKIE, LA.

HOLLOPETER'S Italian Queens
June 1st - Dec. 1st, $1.00 Each
WHITE PINE BEE FARM
Box 810 Rockton, Pa.

BUILD your own FACTORY TYPE HIVES and SUPERS with SAMSON CORNER JOINTS. Only a bench saw and hand tools required. Our low cost Copyrighted BLUE PRINTS and INSTRUCTIONS cover everything and can save you many dollars. Write for information.
EARL TAYLOR, MALCOM, IOWA

HONEY LABELS
Improved designs, embodying color, balance, simplicity, and distinction. Please send for free samples & prices.
C. W. AEPPLER COMPANY
Oconomowoc, Wisconsin

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THANK YOU:
For the Nice
PACKAGE BEE
Business you
gave us this spring.

We are proud of our ability to again ship your orders on time with practically no loss in delivery reported. Our queen yards produced the most satisfactory results ever, in spite of much cool and unfavorable weather.
Queens available through October.

Reg. Strain Island Hybrid

1-25	.90 ea.	$1.20 ea.
26-99	.80 ea.	1.10 ea.
100 up	.75 ea.	1.05 ea.

Queens clipped and/or marked on request only.

Rossman Apiaries

P.O. Box 133 Moultrie, Ga.

BEE LINES TO THE EDITOR

(Continued from page 516)

gloves but I remember once he was glad to leave a swarm he was trying to hive and a swarm is generally docile.

"I also put my trouser legs down inside my hose under certain conditions." —R.C.B.

More about "Is Honey Fattening?"

"I am moved by an editorial entitled 'Is Honey Fattening?' (page 417, July '57 issue of Gleanings in Bee Culture) to refer you to a perusal of my article 'You Can Eat Honey and Diet Too' which appeared in Gleanings in the May '56 issue. This article, I believe, puts the subject matter of the eating of honey in proper perspective.

"It seems to me that a reprint of my article and its wider dissemination (by people who sell honey, no matter where and how) would help in the hurdling of some of the mental and verbal detractions and barriers, that have been erected against the common-sense indulgence in our ambrosial food. Inci-

(Continued on page 572)

ROYAL JELLY BEAUTY CREAM. 1-oz. Royal Jelly beauty cream, $3.00; $20.00 per doz.; 2-oz. Royal Jelly beauty cream, $5.00; $38.00 per doz. Prepaid anywhere in the U. S. Prairie View Honey Co., 12303 12th St., Detroit 6, Mich.

ROYAL JELLY—Fresh, pure, and natural ½-oz., $9.00; 1-oz., $16.00. Special prices to doctors and cosmetic firms. ALSO HONEY ENRICHED WITH ROYAL JELLY. O. K. Anderson & Son, Box 193, Coffee Springs, Ala.

ROYAL JELLY. Nationally known "Api-Vitalex" brand hi-potency. Royal Jelly products. Capsules and Beauty creams. Wholesale distributors and agents sought everywhere; particularly among beekeepers. Large profits available. Write airmail for prices and literature. "Api-Vitalex" Dept. BG; Box 6674, Medical Center Station, Dallas 19, Tex.

ORGANIC FOODS: Save money on Brewer's Yeast, Bone Meal, Desiccated Liver, Wheat Germ Oil, ROYAL JELLY, Vitamins E, A, C, etc. Request catalog "B". WANDA BIO PRODUCTS, 6531 Euclid Avenue, Cleveland 3, Ohio.

CHEMICALS. Prevent moth damage on stored combs with paradichlorobenzene (PDB). Full directions on label. Five pounds delivered, $3.00. Quotations on larger amounts. Tritox Chemical Co., Washington, Ind.

MAGAZINES

Archiv fur Bienkunde, International journal for Bee Culture and beekeeping economics. Founded in the fall of 1918. Oldest economic bee journal in the world. Praised again and again for its decades of independent leadership through many endorsements and advice as a valuable source also for the practice. Classic. Yearly DM 5.50. Any aspiring beekeeping friend will receive a sample copy. Biene-Verglag, Gielback, Lindau, Germany.

Know interesting facts concerning the bees of India through the INDIAN BEE JOURNAL, published in English by the Bhupen Apiaries (Himalayas), Ramgarrh Dist. Naini Tal, U.P. India or available through them. Subs. Rs9/ or 15 shillings or $2.25 yearly. Sample copy post free for Rs ⅛, or s2/6, or 40 cents (International Money Order). Payment in mint postage stamps of your country accepted.

YOU'LL LIKE GOAT MILK! Profit and health with dairy goats. Sample monthly magazine and information FREE. Dairy Goat Journal, Dept. T., Columbia, Mo.

BEE WORLD, the international journal of the Bee Research Association published monthly, contains the latest research reports on bees and beekeeping. With Apicultural Abstracts it costs $5.50 per annum, or $6.00 including membership of the Bee Research Association. Apicultural Abstracts only $4.50 per annum from the Hon. Subscription Secretary, Bee Research Association, 10 Barnett Wood Lane, ASHTEAD, Surrey, England.

Read the South African Bee Journal. Published every two months. Subscription 7/6 per year to the Treasurer, P. O. Box 3106, Cape Town, South Africa.

INTERESTED in Angora Goats? Read the Sheep and Goat Raiser, Hotel Cactus, Box 189, San Angelo, Texas, the only ranch magazine published serving the Angora Goat Industry. Subscription $3.00. Sample copy, 25c.

TOO LATE TO CLASSIFY

WHITE CHUNK COMB IN SUPERS—finest quality white extracted in sixties. Will deliver truck loads of either kind, or mixed loads. Write for samples. R. O. Edwards, GOLDEN VALLEY APIARIES, Fairmont, Nebraska.

FOR SALE—37 colonies of bees in new and nearly new 10-frame equipment. Mrs. E. U. Ralston, Ely, Iowa.

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For your summer and fall queen needs we offer you an outstanding Strain of Three-Band Italians and can furnish Select Young Laying Queens promptly on receipt of your order. Caged fresh from our yards and Rushed to you Prepaid by Air Mail

Prices

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Quality Does Not Cost — It Pays

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Requeen as early as possible now while the QUALITY is still high. Conditions for rearing the best queens possible will be deteriorating as fall advances. Cell-builder incentive to produce good queen cells diminishes as Nature prepares for the inevitable change of season. Bees are temperamental creatures and can only be super-induced to the point which instinctively they are guided.

Reg. U. S. Pat. Off.

Dadant "Starline" Hybrids		Jensen's "Magnolia State" Itals.	
1-24	$1.35	1-24	$1.10
25-99	1.25	25-99	1.05
100-up	1.10	100-up	1.00

Clipped and Marked FREE, Air Mail where expedient.
JENSEN'S APIARIES MACON, MISS. U.S.A.

JUST NEWS

(Continued from page 565)

lective Breeding. Discussion: Dr. G. H. Cale, Jr., and W. W. Wicht

11:00 A.M. The Farm Bureau Can Help — Raymond Ballenger

11:30 A.M. Annual Eastern Honey Show — Dr. George Abrams

12:00 P.M. Lunch

1:15 P.M. Pricing and Marketing Bulk Comb Honey. Panel: Moderator — Irvin A. Stoller

2:00 P.M. Business Session: 1958 Convention

2:30 P.M. Visit to Maxwell Honey Plant, Berryville, Virginia

Glenn O. Jones, Atlantic, Iowa, passed away quite suddenly on June 5, 1957, from a heart attack. He was president of the Iowa Beekeepers' Association from 1943 through 1946. Later he became secretary-treasurer of the American Beekeeping Federation and resigned in 1953. During his term of service the Federation made marked progress in receiving government recognition for the service bees perform in pollinating over 50 farm crops. Friends of Glenn Jones regret his untimely passing.

The **Nevada State Department of Agriculture** announces the appointment of Lee M. Burge as Director, Division of Plant Industry, succeeding the late Geo. G. Schweis. Mr. Burge has been with the Department since 1929, and is thoroughly familiar with conditions throughout the state. Our Mr. Floyd Hilbig of the department was appointed Chief Apiary Inspector, replacing Mr. Schweis.—Edward Records, Executive Officer.

"A DEAD FOX was found by a commercial beekeeper lying on the top of a hive in an out-apiary. It seems an unlikely place for a fox to choose as a death bed. It is likely he was shot by a poacher picked up and dumped on the hive and the bees, possibly resenting the disturbance and the reek, prevented the removal of the corpse, which was highly 'mellow' when the bee man discovered it." — Bee Craft, July, 1957.

Buy U. S. Savings Bonds
They come in all sizes . . . .
and grow bigger every year.

XUM

CARNIOLAN and CAUCASIAN QUEENS

Now is a good time to requeen swarms and make increase with high producing and gentle Carniolan or Caucasian queens.

Queens ....$1.35 each, air mail

Discount on quantity.

$2.00 to foreign countries

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Box 87 LaBelle, Fla.

Italian Queens

EUGENE WALKER
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Booking orders now. Over 30 years a shipper. Send for Free Circulars.

BLUE BONNET APIARIES
Weslaco, Texas

U. S. Savings Bonds come in all sizes .....and grow bigger every year.

LIVE AND LEARN

(Continued from page 543)

won't make life miserable for me, but you can't help but wonder what is the cause of it all.

In spite of the fact that my crop is about normal, the hives were nowhere nearly as populous as in previous years. Did that moth spray I told you about last month have anything to do with it? It must have killed a lot of other insects, because so far I haven't seen or heard a cricket. That isn't too hard to take, but also, I haven't seen anywhere near the number or variety of birds that usually hang around my feeders.

AMERICAN HONEY INSTITUTE

(Continued from page 550)

habit of buying other sweets in favor of honey. When the American Honey Institute points out that honey's sugars are simple sugars and create quick ready energy, it is trying to weaken the old drive for just any sweet and re-direct that drive to the specific sweet, honey.

If the honey package does actually compare favorably with other sweets, the consumer is rewarded for his good judgment. If quick energy is really released by honey (as it is) the customer is rewarded for his choice.

Now, let us note this: Once we have zeroed in our sights on our target, the consumer, and succeeded in hitting him with the idea that honey is good, we must press our advantage by (a) repeating the idea over and over, and (b) rewarding him when he gives the correct and favorable nod to honey.

Number (a) is the reason that the American Honey Institute urges its beekeepers to advertise over and over again. To repeat and repeat and repeat the goodness of honey is the only way to strengthen the customer's acceptance of it.

Number (b) is the reason that nothing but the truth must be advertised about honey. Make one false claim for honey, let the customer try it and be disappointed that honey does not live up to that claim, and you have lost a customer, not gained one. You must reward him by being sure that the consumer receives what he expects to receive.

Here it is in a nutshell then: When we try to pass along the idea that honey is worth buying, we do it by arousing new drives and new habits, or by weakening the old. Once our idea has landed and established a beachhead, we strengthen our toehold by repeating the idea, and by rewarding the acceptance of it by proving that it is indeed worthwhile.

That's what is formally known as the psychology of communications. Not all of it, mind you, not even 50 per cent of it. Just a whiff of it. But that is enough to get you started in the right direction.

LET'S TALK ABOUT HONEY PLANTS

(Continued from page 551)

a luxuriant growth of moneywort (**Lysimachia Nummularia**) the large yellow flowers of which his bees also visited regularly for several weeks in the spring.

North Carolina. Some time ago M. B. Chinnis of Leland wrote me that his honey came almost entirely from black gum and gallberry. He must be near the northern portion of the useful range of gallberry which is best known in northern Florida and southern Georgia. However, many species extend their range up the Atlantic Coast under the warming influence of the Gulf Stream, as far north as Virginia. Mr. Chinnis adds that the tall gallberry blooms from April 20 to May 10 and the low gallberry from May 20 to June 30. He obtains about 30 pounds surplus from the former and up to 40 pounds from the latter. According to Mr. Chinnis both fail to produce a crop in bad seasons, unlike the gallberry in the swampy country of southern Georgia which practically never fails. Other honey plants around Leland are holly and huckleberry.

Mimosa (**Albizzia julibrissin**) is a shrubby legume much planted for ornament in the central states. It makes a large bush or small tree, and the one on my front lawn has thousands of blossoms from the middle of June until the end of August. The flowers are very attractive to bees but they have difficulty reaching the nectar because the numerous pink stamens get them entangled. However, after a heavy rain the stamens droop and the bees work the flowers with ease.

BRITISH BEE JOURNAL
The Only FORTNIGHTLY Bee Journal in the World
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Medina, Ohio

QUALITY BRED ITALIAN QUEENS
Breeders selected from our Michigan Apiaries for high production and hardiness.
Queens .....$1.00 each
After May 20th ... .75 each
All queens shipped Air Mail. No more packages this season.
Walter D. Leverette Apiaries
P.O. BOX 364 FT. PIERCE, FLA.

NORMAN'S ITALIAN QUEENS
Untested 65c each
Prompt Service
BRIGHT 3-BANDED ITALIAN QUEENS. Highest quality, purely mated, good producers. Safe arrival and satisfaction guaranteed. State health certificate furnished.
TESTED QUEENS .....$1.30 each
3-lb. pkg. with queen ..... 3.75 each
4-lb. pkg. with queen ..... 4.75 each
Packages shipped F.O.B. or via Parcel Post.
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ROUTE 1 GRADY, ALABAMA

"GULF BREEZE" ITALIAN QUEENS
PRICES
1-24.....90c each 25-100.....80c each
100 up.....75c each
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Donaldsonville, La.

QUEENS — 75c — By Return Mail
BRIGHT 3-BANDED ITALIANS
2-lb. pkg. with queen $3.00
3-lb. pkg. with queen 4.00
Tested queens 1.50
All queens postpaid. Packages F.O.B.
Guaranteed in every respect.
NORMAN BROS. APIARIES
Ramer, Ala.

"The Australian Bee Journal"
Published by the Victorian Apiarists' Association at the beginning of each month. Subscription 10/-per annum plus 2/6 postage to overseas countries.
Box 167, Rainbow, Victoria, Australia

SUE BEE SAYS:

PLAN AHEAD

Everyone is busy now taking care of this year's honey crop. Do not neglect the fall work that will mean the diffference between a good crop and just a crop next year.

One of the most important items is the health of the colonies you will winter over. A small amount of Fumidil B fed this fall will pay big dividends next spring

We have a large, fresh stock of Fumadil B as well as Terramycin and Sulfathiazole. Check these prices. Your order in the mail today will insure prompt attention.

0.5 gm. Fumadil B.	$ 2.40
9.5 gm. Fumadil B.	28.50
1 lb. Sulfa Sodium or fine powder	4.50
10 lb. Sulfa Sodium or fine powder	38.25
1 lb. Terramycin T. M. 5	1.25
10 lb. Terramycin T. M. 5	10.00

SIOUX HONEY ASSO.

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Anaheim, Calif. Rogers, Texas
Tacoma, Wash.

BEE LINES TO THE EDITOR

(Continued from page 568)

dentally, it would aid in the sale of honey (I am still naive enough to believe that the profit motive makes even a palatable swallow go down so much easier)."—A.E.L.

Different Opinions about Beekeeping in Montana

"Regarding the article by Mr. Sagunsky on 'Beekeeping in Montana', in the May Gleanings, I do not entirely agree with him. He lives in the southern part of the state, with different climatic conditions. The state has several different climates. In his section it is warmer than it is here. Some parts of it is dry some years while wet in other parts. In this locality we have not had more than one drouth year at a time since the years of 1929 through 1937. Some years have been too cool to secure much honey even with plenty of bloom. The year 1947 had a May 28, 25 degree freeze which ruined the crop for that year. However, good rains produced an abundance of sweet clover in 1948 and there was plenty of rain to make a good crop.

"Another thing in which I do not agree with M. Sagunsky is when he says, if you miss the first cutting of alfalfa you are lost. If we had to depend on this cutting some years we would be lost any way. An early spring tends to bring on the bloom early in June, then the farmers all start cutting and with power machinery it goes down fast. Rain in late June and early July held back some farmers and I secured a good crop. August was too cool so not much was secured from the second cutting. Again an early spring brought an early bloom with the same results. June is generally very cool so we never expect much from alfalfa in this month. It is only when rain or large acreages extend it into July that we can get much from this source. There is quite a bit of sweet clover along roadsides this year and with good rainfall some surplus is being secured. Cool windy weather is continuing even into July.

"The farmers have a tendency to allow the second cutting to stand longer and occasionally we have hot weather during at least part of August which results in the biggest part of our crop being secured at that time. Therefore, I cannot agree with Mr. Sagunsky. I would not attempt to describe conditions in this locality and say that they apply to the entire state.

"He is right, however, when he says that any attempt at honey production away from river valleys and irrigation projects usually result in failure. However, the beekeeper near a river or irrigated valley whose bees can cover roadsides in nearby dryland areas can reap a bonanza in the wet years."—C.J.C.

AUTOMATIC FRAMESPACER

NEW! Space 9 frames in 10-frame bodies evenly, instantly, automatically. No more crooked combs. You need only one; lasts a lifetime. $3.75 postpaid.

SWISHER SPACER

1315 Blackstone Rd. San Marino, Cal.

PELLETT GARDENS

(Continued from page 541)

ing when a youngster, although I did not develop into a beekeeper since I had a greater interest in growing plants. I remember that Dad made the remark that I was now entering the beekeeping field through the back door. The mail order in honey plants grew to become a nice part of the business.

The building which Dad used for a study when writing in my boyhood days was enlarged and remodelled into a comfortable summer cottage. That was where Father and Mother spent the spring and summer months during his late years while Dad was carrying on the experimental plots. Thus our four children, Norman, Eloise, Harold, and Janet, growing up in these surroundings, in their early years had much close contact with him who had a great love for all living creatures and growing plants. Many times the children acted as guides to visitors to the gardens. Dad spent much time with his grandkids (there are fifteen all told, although the rest live away from here) and was their teacher in the love and appreciation of Nature.

Father passed away in April, 1951. The wild-flower preserve which he had observed for so many years has been dedicated to his memory by the family in cooperation with the Iowa State Horticultural Society and friends who wished to make some contributions toward a memorial. The dedication was made in July, 1954, commemorating the anniversary of Dad's birthday which is July 12. A rustic rail fence encloses the preserve from the road. The area is open to visitors by a hand gate. On each side of the gate is mounted a bronze plaque on a large stone. One of the plaques proclaims the memorial. The other gives Dad's own creed which he wrote many years ago.

We are continuing with some of the honey-plant gardens, endeavoring to keep intact a variety of the best honey plants accumulated over the years and trying some of the new which come to our attention.

Now my wife and I are getting to the place where our hair is getting grey and the youngsters are no longer able to involve me in foot races or ball games. We may no longer set the world on fire. But when I think of my boys—their background and the intense interest they each have in the place and for some parts of the nursery business —if I may again express a bit of optimism, I will say that I feel there is a great future ahead for Pellett Gardens.

The Rush is Over

We can fill queen orders on time so requeen with good queens while they are cheap. Our 100 per cent SATISFACTION has been good for 46 years. Let us prove it.

Untested queens $ .75 ea.
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BETTER-BRED QUEENS
Three Banded Italians
Queens remainder of season
70c each
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SOLD out of all Bees & Queens for 1957

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Your Choice of Two Outstanding Strains

DADANT'S Improved Starlines or
YORK'S Quality Bred Italians

Italians		Starlines	
1-24	$1.00	1-24	$1.30
25-99	.90	25-99	1.20
100 up	.80	100 up	1.10

The Preference of Leading Honey Producers

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(The Universal Apiaries)

GARON'S TOP QUALITY QUEENS

For the Balance of the Season

Dadant Starline Hybrid Queens		Garon's 3-Banded Italian Queens
1-24	$1.30	90c
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GARON BEE COMPANY **Donaldsonville, La.**

Top Quality Queens

Caucasian & Italian

1-24	$ .80
25-99	.75
100 up	.65

Farris Homan

Shannon, Miss.

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ROYAL JELLY

Booking orders for 1957 season.
1 to 24, $1.25 25 to 99, $1.15 99, up $1.05

Write for jelly prices.

LITTLE'S APIARIES

P. O. Box 122 Shelbyville, Tennessee

Canada's
National Monthly Magazine
for Beekeepers
Canadian Bee Journal
Streetsville, Ontario, Canada

GLIMPSE OF QUEENS AND PACKAGE PRODUCTION

(Continued from page 527)

considerably. Also, the more perfect the brood combs the more worker bees to shake.

Foundation was imbedded with an ingenious device that imbedded all four wires at once. Almost any beekeeper can make a device of equal efficiency with a little planning. Here, as in other modern apiaries, I was constantly reminded that with a little thought there need not be any drudgery in beekeeping, either on a large or small scale.

My experience in California was very pleasant and profitable.

THE AUSTRALASIAN BEEKEEPER

The senior beekeeping journal of the Southern Hemisphere provides a complete cover of all beekeeping topics in one of the world's largest honey producing countries. Published monthly by Pender Bros. Pty. Ltd. Box 20, P.O., Maitland, 3N, N.S.W., Australia. Subscription by Bank Draft or International M. O. 18/-(Approx. $2.15) per year, post free. Sample copy free on request.

QUEENS

ITALIANS CAUCASIANS

We surely hope you had a good honey crop this year and now that it is over, better start thinking about next year. Get a good, young queen in those colonies, leave them plenty of honey, cull out all of those weak ones, and you will be well on the road to good, strong colonies next spring.

PRICES

In lots of 1-24 .... 90c each
In lots of 25-499 .... 80c each
Tested queens ..... $2.00 each

Airmailed and/or clipped—no extra cost.
You must be satisfied—queens will be replaced or your money refunded if you are not.

THE STOVER APIARIES

Mayhew, Miss.

TALK TO BEEKEEPERS

(Continued from page 555)

pollen which is very valuable to the bees. If we permit the bees to fix up their brood nest early in the fall, they will do a better job of it than we can hope to do. Bees know what they need and quite often the owners don't.

The Last Check-up

It is well, sometime during this month, to give each colony a thorough examination. It is not too late to introduce a queen which may be needed to take the place of an old queen that has begun to fail. As a rule, queens are more easily introduced in the fall, than during the early spring months, at least that has been my experience.

Be sure also to check for disease, especially American foulbrood. A diseased colony, if not detected in the fall, may die during the early spring months and spread disease to other hives. All diseased colonies should be properly disposed of in the fall.

U. S. Savings Bonds come in all sizes . . . . . and grow bigger every year.

Protect Your Future. Buy Your Savings Bonds Now.

CAUCASIAN QUEENS
1 to 9, $1.20 10 to 49, $1.10
50 and up, $1.00
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43 Years Continuous Service
Italian Package Bees and Queens Our Specialty
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FLOWERS'
QUALITY ITALIAN QUEENS
That stand the test for honey-gatherers; gentle; prolific; bred from hives making 300 pounds, or over of honey. Health certificate with each shipment. Prompt live delivery guaranteed.
QUEENS: 1 to 99, 75c 100-up, 65c 1 or 1000
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XUM

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